

10 20 30 40 50 60
 MALAGAPAGG PCAPALEALL GAGALRL LDS SQIVIISAAQ DASAPPAPTG PAAPAAGPCD
 70 80 90 100 110 120
 PDL L LFATPQ APRPTPSAPR PALGRPPVKR RLDLETDHQY LAESSGPARG RGRHPGKGVK
 130 140 150 160 170 180
 SPGEKSRYET SLNLTKRFL ELLSHSADGV VDLNWAAEVL KVQKRRIYDI TNVLEGIQLI
 190 200 210 220 230 240
 AKKSKNHIQW LGSHTTVGVG GRLEGLTQDL RQLQESEQQL DHLMNICTTQ LRLLSED TDS
 250 260 270 280 290 300
 QRLAYVTCQD LRSIADPAEQ MVMVIKAPPE TQLQAVDSSE NFQISLKSKQ GPIDVFLCPE
 310 320 330 340 350 360
 ETVGGISPGK TPSQEV TSEE ENRATDSATI VSPPPSSPPS SLTTDPSQSL LSLEQEPLLS
 370 380 390 400 410 420
 RMGSLRAPVD EDRLSPLVAA DSLLEHVRED FSGLLP EEFI SLSP PHEALD YHFGLEE GEG
 430 440 450 460 470 480
 IRDLFDCDFG DLTP LDF*

FIG. 1A

10 20 30 40 50 60
 GGAATTCCTG GGGCGGGACT TTGCAGGCAG CGGCGGCCCG GGGCGGAGCG GGATCGAGCC
 70 80 90 100 110 120
 CTCGCCGAGG CCTGCCGCCA TGGGCCCCCG CCGCCGCCCG CGCCTGTCAC CCGGGCCGCG
 130 140 150 160 170 180
 CGGGCCGTGA GCGTCATGGC CTTGGCCGGG GCCCCTGCGG GCGGCCCATG CGCGCCGGCG
 190 200 210 220 230 240
 CTGGAGGCCG TGCTCGGGGC CGGCGCGCTG CGGCTGCTCG ACTCCTCGCA GATCGTCATC
 250 260 270 280 290 300
 ATCTCCGCCG CGCAGGACGC CAGCGCCCCG CCGGCTCCCA CCGGCCCCGC GGCGCCCGCC
 310 320 330 340 350 360
 GCCGGCCCCCT GCGACCTTGA CCTGCTGCTC TTCGCCACAC CGCAGGCGCC CCGGCCACCA
 370 380 390 400 410 420
 CCCAGTGCGC CGCGGCCCGC GCTCGGCCGC CCGCCGGTGA AGCGGAGGCT GGACCTGGAA
 430 440 450 460 470 480
 ACTGACCATC AGTACCTGGC CGAGAGCAGT GGGCCAGCTC GGGGCAGAGG CCGCCATCCA
 490 500 510 520 530 540
 GGAAAAGGTG TGAAATCCCC GGGGGAGAAG TCACGCTATG AGACCTCACT GAATCTGACC
 550 560 570 580 590 600
 ACCAAGCGCT TCCTGGAGCT GCTGAGCCAC TCGGCTGACG GTGTCGTCGA CCTGAACTGG
 610 620 630 640 650 660
 GCTGCCGAGG TGCTGAAGGT GCAGAAGCGG CGCATCTATG ACATCACCAA CGTCCTTGAG
 670 680 690 700 710 720
 GGCATCCAGC TCATTGCCAA GAAGTCCAAG AACCACATCC AGTGGCTGGG CAGCCACACC
 730 740 750 760 770 780
 ACAGTGGGCG TCGGCCGACG GCTTGAGGGG TTGACCCAGG ACCTCCGACA GCTGCAGGAG
 790 800 810 820 830 840
 AGCGAGCAGC AGCTGGACCA CCTGATGAAT ATCTGTACTA CGCAGCTGCG CCTGCTCTCC
 850 860 870 880 890 900
 GAGGACACTG ACAGCCAGCG CCTGGCCTAC GTGACGTGTC AGGACCTTCG TAGCATTGCA
 910 920 930 940 950 960
 GACCCTGCAG AGCAGATGGT TATGGTGATC AAAGCCCCCTC CTGAGACCCA GCTCCAAGCC
 970 980 990 1000 1010 1020
 GTGGACTCTT CGGAGAACTT TCAGATCTCC CTTAAGAGCA AACAAGGCCC GATCGATGTT
 1030 1040 1050 1060 1070 1080
 TTCCTGTGCC CTGAGGAGAC CGTAGGTGGG ATCAGCCCTG GGAAGACCCC ATCCCAGGAG
 1090 1100 1110 1120 1130 1140
 GTCATTCTTG AGGAGGAGAA CAGGGCCACT GACTCTGCCA CCATAGTGTC ACCACCACCA
 1150 1160 1170 1180 1190 1200
 TCATCTCCCC CCTCATCCCT CACCACAGAT CCCAGCCAGT CTCTACTCAG CCTGGAGCAA
 1210 1220 1230 1240 1250 1260
 GAACCGCTGT TGTCCCGGAT GGGCAGCCTG CGGGCTCCCC TGGACGAGGA CCGCCTGTCC

FIG. 1B

1270	1280	1290	1300	1310	1320
CCGCTGGTGG	CGGCCGACTC	GCTCCTGGAG	CATGTGCGGG	AGGACTTCTC	CGGCCTCCTC
1330	1340	1350	1360	1370	1380
CCTGAGGAGT	TCATCAGCCT	TTCCCCACCC	CACGAGGCCC	TCGACTACCA	CTTCGGCCTC
1390	1400	1410	1420	1430	1440
GAGGAGGGCG	AGGGCATCAG	AGACCTCTTC	GACTGTGACT	TTGGGGACCT	CACCCCCCTG
1450	1460	1470	1480	1490	1500
GATTTCTGAC	AGGGCTTGGA	GGGACCAGGG	TTTCCAGAGT	AGCTCACCTT	GTCTCTGCAG
1510	1520	1530	1540	1550	1560
CCCTGGAGCC	CCCTGTCCCT	GGCCGTCTTC	CCAGCCTGTT	TGGAAACATT	TAATTTATAC
1570	1580	1590	1600	1610	1620
CCCTCTCCTC	TGTCTCCAGA	AGCTTCTAGC	TCTGGGGTCT	GGCTACCGCT	AGGAGGCTGA
1630	1640	1650	1660	1670	1680
GCAAGCCAGG	AAGGGAAGGA	GTCTGTGTGG	TGTGTATGTG	CATGCAGCCT	ACACCCACAC
1690	1700	1710	1720	1730	1740
GTGTGTACCG	GGGGTGAATG	TGTGTGAGCA	TGTGTGTGTG	CATGTACCGG	GGAATGAAGG
1750	1760	1770	1780	1790	1800
TGAACATACA	CCTCTGTGTG	TGCACTGCAG	ACACGCCCCA	GTGTGTCCAC	ATGTGTGTGC
1810	1820	1830	1840	1850	1860
ATGAGTCCAT	CTCTGCGCGT	GGGGGGGCTC	TAAGTGCCTT	TTGGGCCCTT	TTGCTCGTGG
1870	1880	1890	1900	1910	1920
GGTCCCACAA	GGCCCAGGGC	AGTGCCTGCT	CCCAGAATCT	GGTGCTCTGA	CCAGGCCAGG
1930	1940	1950	1960	1970	1980
TGGGGAGGCT	TTGGCTGGCT	GGGCGTGTAG	GACGGTGAGA	GCACTTCTGT	CTTAAAGGTT
1990	2000	2010	2020	2030	2040
TTTTCTGATT	GAAGCTTTAA	TGGAGCGTTA	TTTATTTATC	GAGGCCTCTT	TGGTGAGCCT
2050	2060	2070	2080	2090	2100
GGGGAATCAG	CAAAAGGGGA	GGAGGGGTGT	GGGGTTGATA	CCCCAACTCC	CTCTACCCCT
2110	2120	2130	2140	2150	2160
GAGCAAGGGC	AGGGGTCCCT	GAGCTGTTCT	TCTGCCCCAT	ACTGAAGGAA	CTGAGGCCTG
2170	2180	2190	2200	2210	2220
GGTGATTTAT	TTATTGGGAA	AGTGAGGGAG	GGAGACAGAC	TGACTGACAG	CCATGGGTGG
2230	2240	2250	2260	2270	2280
TCAGATGGTG	GGGTGGGCCC	TCTCCAGGGG	GCCAGTTCAG	GGCCCAGCTG	CCCCCAGGA
2290	2300	2310	2320	2330	2340
TGGATATGAG	ATGGGAGAGG	TGAGTGGGGG	ACCTTCACTG	ATGTGGGCAG	GAGGGGTGGT
2350	2360	2370	2380	2390	2400
GAAGGCCTCC	CCCAGCCCAG	ACCCTGTGGT	CCCTCCTGCA	GTCTCTGAAG	CGCCTGCCTC
2410	2420	2430	2440	2450	2460
CCCACTGCTC	TGCCCCACCC	TCCAATCTGC	ACTTTGATTT	GCTTCCTAAC	AGCTCTGTTC
2470	2480	2490	2500	2520	2520
CCTCCTGCTT	TGGTTTTAAT	AAATATTTTG	ATGACGTTAA	AAAAAGGAAT	TCGATAT

FIG. 1B
(CONTINUED)

1 ttccgggtttt tctcagggga cgttgaaatt atttttgtaa cgggagtcgg gagaggacgg
 61 ggcgtgcccc gcgtgcgcgc gcgtgcgtct ccccggcgct cctccacagc tcgctggctc
 121 ccgcccgcga aaggcgctcat gccgcccaaa acccccgcga aaacggccgc caccgccgcc
 181 gctgccgcgc cggaaccccc gccaccgcgc ccgcccgcgc ctcctgagga ggaccagag
 241 caggacagcg gcccgagga cctgcctctc gtcaggcttg agtttgaaga aacagaagaa
 301 cctgatttta ctgcattatg tcagaaatta aagataccag atcatgtcag agagagagct
 361 tgggttaactt gggagaaagt ttcatctgtg gatggagtat tgggaggtta tattcaaaag
 421 aaaaaggaac tgtggggaat ctgtatcttt attgcagcag ttgacctaga tgagatgtcg
 481 ttcactttta ctgagctaca gaaaaacata gaaatcagtg tccataaatt cttaactta
 541 ctaaaagaaa ttgataccag taccaaagtt gataatgcta tgtcaagact gttgaagaag
 601 tatgatgtat tgtttgact cttcagcaaa ttggaaagga catgtgaact tatatatttg
 661 acacaaccca gcagttcgat atctactgaa ataaattctg cattggtgct aaaagtttct
 721 tggatcacat ttttattagc taaaggggaa gtattacaaa tgggaagatga tctggtgatt
 781 tcatttcagt taatgctatg tgtccttgac tattttatta aactctcacc tcccattgtg
 841 ctcaaagaac catataaaac agctgttata cccattaatg gttcacctcg aacaccaggg
 901 cgaggtcaga acaggagtgc acggatagca aaacaactag aaaatgatac aagaattatt
 961 gaagttctct gttaaagaaca tgaatgtaat atagatgagg tgaaaaaatgt ttatttcaaa
 1021 aattttatata cttttatgaa ttctcttgga ctgttaacat ctaatggact tccagaggtt
 1081 gaaaatcttt cttaacgata cgaagaaatt tatcttaaaa ataaagatct agatgcaaga
 1141 ttatttttgg atcatgataa aactcttcag actgattcta tagacagttt tgaacacag
 1201 agaacaccac gaaaaagtaa ccttgatgaa gaggtgaatg taattcctcc acacactcca
 1261 gttaggactg ttatgaacac tatccaacaa ttaatgatga ttttaaatc agcaagtgat
 1321 caaccttctag aaaatctgat ttcttatttt aacaactgca cagtgaatcc aaaagaaagt
 1381 atactgaaaa gagtgaagga tataggatac atcttttaaag agaaatttgc taaagctgtg
 1441 ggacaggggtt gtgtcgaaat tggatcacag cgatacaaac ttggagttcg cttgtattac
 1501 cgagtaatgg aatccatgct taaatcagaa gaagaacgat tatccattca aaatttttagc
 1561 aaacttctga atgacaacat ttttcatcag tctttatttg cgtgcgctct tgaggttgta
 1621 atggccacat atagcagaag tacatctcag aatcttgatt ctggaacaga tttgtctttc
 1681 ccattggattc tgaatgtgct taatttataa gcccttgatt tttacaaagt gatcgaagt
 1741 tttatcaaag cagaaggcaa cttgacaaga gaaatgataa aacatttaga acgatgtgaa
 1801 catcgaatca tggaaatccct tgcattggctc tcagattcac ctttatttga tcttattaaa
 1861 caatcaaagg accgagaagg accaactgat cacttgtaat ctgcttggtc tcttaatctt
 1921 cctctccaga ataatacacac tgcagcagat atgtatcttt ctctgtaag atctccaaag
 1981 aaaaaaggtt caactacgcg tgtaaaattct agtgcaaattg cagagacaca agcaacctca
 2041 gccttccaga cccagaagcc attgaaatct acctctcttt cactgtttta taaaaaagtg
 2101 tatcggttag cctatctccg gctaaatata ctttgtgaac gccttctgtc tgagcaccga
 2161 gaattagaac atatcatctg gacccttttc cagcacaccc tgcagaatga gtatgaactc
 2221 atgagagaca ggcattttgga ccaaattatg atgtgttcca tgtatggcat atgcaaagtg
 2281 aagaatatag accttaaatt caaaatcatt gtaacagcat acaaggatct tccatgct
 2341 gttcaggaga cattcaaacg tgttttgatc aaagaagagg agtatgattc tattatagta
 2401 ttctataact cggctttcat gcagagactg aaaacaaata ttttgcagta tgcttccacc
 2461 aggccccccta ccttgtcacc aatacctcac attcctcgaa gcccttacia gtttcctagt
 2521 tcacccttac ggattccttg agggaacatc tatatttcac ccctgaagag tccatataaa
 2581 atttcagaag gtctgccaac accaacaata atgactcaa gatcaagaat cttagtatca
 2641 attggtgaat cattcgggac ttctgagaag ttccagaaaa taaatcagat ggtatgtaac
 2701 agcgaccgtg tgctcaaaag aagtgttgaa ggaagcaacc ctctaaacc actgaaaaaa
 2761 ctacgctttg atattgaagg atcagatgaa gcagatggaa gtaaacatct cccaggagag
 2821 tccaaatttc agcagaaact ggcagaaatg acttctactc gaacacgaat gcaaaagcag
 2881 aaaatgaatg atagcatgga tacctcaaac aaggaagaga aatgaggatc tcaggacctt
 2941 ggtggacaat gtgtacacct ctggattcat tgtctctcac agatgtgact gtat

FIG. 2A

"MPPKTPRKTAATAAAAAAEPAPPPPPPEEDPEQDSGPEDLPL
VRLEFEETEEPDFALCQKLKIPDHVRERAWLTWEKVSSVDGVLGGYIQKKKELWGIC
IFIAAVDLDEMSFTFTELQKNIEISVHKFFNLLKEIDTSTKVDNAMSRLKKYDVLFA
LFSKLERTCELIYLTQPSSSISTEINSALVLKVSWITFLLAKGEVLQMEDDLVISFQL
MLCVLDYFIKLSPPMLLKEPYKTAVIPINGSRTPRRGQNRSAARIAKQLENDTRIIEV
LCKEHECNIDEVKNVYFKNFIPFMNSLGLVTSNGLPEVENLSKRYEEIYLNKNDLDAR
LFLDHDKTLQTDSIDSFETQRTPRKSNLDEEVNIPPHTPVRTVMNTIQQLMILNSA
SDQPSENLI SYFNNTVNPKE SIKRVKDIGYIFKEKFAKAVGQGCVEIGSQRYKLGV
RLYYRVMESMLKSEEERLSIQNFSKLLNDNIFHMSLLACALEVVMATYSRSTSQNLD
GTDLSFPWILNVLNLKAFDFYKVIESFIKAEGNLTREMIKHLERCEHRIMESLAWLSD
SPLFDLIKQSKDREGPTDHLESACPLNLPLQNNHTAADMYLSPVRSPKKKGSTTRVNS
TANAETQATSAFQTQKPLKSTSLSLFYKKVYRLAYLRLNTLCERLLSEHPELEHIWT
LFQHTLQNEYELMRDRHLDQIMMCSMYGICKVKNIDLKFKIIVTAYKDLPHAVQETFK
RVLIKEEEYDSIIVFYNSVFMQRLKTNILQYASTRPPTLSPIPHIPRSPYKFPSSPLR
IPGGNIYISPLKSPYKISEGLPTPTKMTPRSRLVSIGESFGTSEKFQKINQMVCNSD
RVLKRSAEGSNPPKPLKKLRFDIEGSDEADGSKHLPGESKFQQLAEMTSTRTRMQKQ
KMND SMDTSNKEEK"

FIG. 2B

FIG. 4

FIG. 4

FIG. 4
(CONTINUED)

[illegible]

FIG. 4
(CONTINUED)

(CONTINUED)

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>ApaI
|
>ClaI  >EcoO109I
|      |
>XbaI  >ApoI      >EcoRV|  >Bsp120I  >SfcI
|      |          |      |          |
>PstI  >EcoRI  >BsiWI      >BspDI  ||>BanII          >MslI
|      |          |          |          |          | |
|      | 1100    | 1110    | 1120    | 1130    | 1140    |
|      | *      | *      | *      | *      | *      |
CAGTCTAGAC GAATTCGCGT ACGATATCGA TGGGCCCTAT T CTA TAG TGT CAC CTA
Leu *** Cys His Leu>
SP6 PROMOTER____>

>BanII
|
>BsiHKAI
|
>SacI
|
>Ecl136II| >BclI
|      |
>BGH_POLY_A |
|      |
1150 | 1160 | 1170 | 1180 | 1190 | 1200
* | * | * | * | * | *
AAT G CTAGAGCTCG CTGATCAGCC TCGACTGTGC CTTCTAGTTG CCAGCCATCT
Asn>
____>

>BanI
|
1210 1220 1230 1240 1250 1260
* * * * *
GTTGTTTGCC CCTCCCCCGT GCCTTCCTTG ACCCTGGAAG GTGCCACTCC CACTGTCCTT

1270 1280 1290 1300 1310 1320
* * * * *
TCCTAATAAAA ATGAGGAAAT TGCATCGCAT TGTCTGAGTA GGTGTCATTC TATTCTGGGG

>BbsI
|
1330 1340 1350 1360 1370 1380
* * * * *
GGTGGGGTGG GGCAGGACAG CAAGGGGGAG GATTGGGAAG ACAATAGCCG AAATGACCGA

>BssSI
|
>BspMI
|
1390 1400 1410 1420 1430 1440
* * * * *
CCAAGCGACG CCCAACCTGC CATCACGAGA TTTCGATTCC ACCGCCGCCT TCTATGAAAG

>NaeI
|
>BsrFI
|
>BpmI
|
>NgoMI
|
1450 1460 1470 1480 1490 1500
* * * * *
GTTGGGCTTC GGAATCGTTT TCCGGGACGC CGGCTGGATG ATCCTCCAGC GCGGGGATCT

```

FIG. 4
(CONTINUED)

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                                >BsmI
                                |
                        >SV40_early_poly_A
                                |
1510      1520      1530      1540      1550      1560
*      *      *      *      *      *
CATGCTGGAG TTCTTCGCCC ACCCCAACCTT GTTTATTGCA GCTTATAATG GTTACAAATA

                                >ApoI
                                |
1570      1580      1590      1600      1610      1620
*      *      *      *      *      *
AAGCAATAGC ATCACAAATT TCACAAATAA AGCATTTTTT TCACTGCATT CTAGTTGTGG

                                >BsmI
                                |
                                >HincII
                                |
                                >Bst1107I
                                |
                                >AccI
                                |
                                >AccI
                                |
                                >SalI
                                |
1630      1640      1650      1660      1670      1680
*      *      *      *      *      *
TTTGTCCAAA CTCATCAATG TATCTTATCA TGTCTGTATA CCGTCGACCT CTAGCTAGAG
_____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >BsrBI
                                |
1690      1700      1710      1720      1730      1740
*      *      *      *      *      *
CTTGCGGTAA TCATGGTCAT AGCTGTTTCC TGTGTGAAAT TGTTATCCGC TCACAATTCC
_____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >BamI
                                |
1750      1760      1770      1780      1790      1800
*      *      *      *      *      *
ACACAACATA CGAGCCGGAA GCATAAAGTG TAAAGCCTGG GGTGCCTAAT GAGTGAGCTA
_____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >AseI
                                |
1810      1820      1830      1840      1850      1860
*      *      *      *      *      *
ACTCACATTA ATTGCGTTGC GCTCACTGCC CGCTTTCCAG TCGGGAAACC TGTCGTGCCA
_____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

>PvuII
|
>MspAI | >AseI | >EaeI | >HaeII
|      |      |      |
1870      1880      1890      1900      1910      1920
*      *      *      *      *      *
GCTGCATTAA TGAATCGGCC AACGCGCGGG GAGAGGCGGT TTGCGTATTG GGCGCTCTTC
_____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

>EaeI
|
>SapI | >BsiEI | >BsrBI
|      |      |
1930      1940      1950      1960      1970      1980
*      *      *      *      *      *
CGCTTCCTCG CTCAGTACT CGCTGCGCTC GGTGCTTCGG CTGCGGCGAG CGGTATCAGC
_____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

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FIG. 4
(CONTINUED)

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                                >AflIII
                                |
      1990      2000      2010      2020      2030      2040
      *      *      *      *      *      *
      TCACTCAAAG GCGGTAATAC GGTTATCCAC AGAATCAGGG GATAACGCAG GAAAGAACAT
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

      2050      2060      2070      2080      2090      2100
      *      *      *      *      *      *
      GTGAGCAAAA GGCCAGCAAA AGGCCAGGAA CCGTAAAAAG GCCGCGTTGC TGGCGTTTTT
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >DrdI
                                |
      2110      2120      2130      2140      2150      2160
      *      *      *      *      *      *
      CCATAGGCTC CGCCCCCTG ACGAGCATCA CAAAATCGA CGCTCAAGTC AGAGGTGGCG
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >BssSI
                                |
      2170      2180      2190      2200      2210      2220
      *      *      *      *      *      *
      AAACCCGACA GGACTATAAA GATACCAGGC GTTCCCCCT GGAAGCTCCC TCGTGCGCTC
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >BsaWl
                                |
      2230      2240      2250      2260      2270      2280
      *      *      *      *      *      *
      TCCTGTTCCG ACCCTGCCGC TTACCGGATA CCTGTCCGCC TTTCTCCCTT CGGGAAGCGT
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

      >HaeII      >SfcI
      |      |
      2290      2300      2310      2320      2330      2340
      *      *      *      *      *      *
      GGCGCTTTCT CAATGCTCAC GCTGTAGGTA TCTCAGTTCTG GTGTAGGTCTG TTCGCTCCAA
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

      >BsiHKAI      >MspAlI
      |      |
      >ApaLI      >BsiEI      >BsaWI
      |      |      |
      2350      2360      2370      2380      2390      2400
      *      *      *      *      *      *
      GCTGGGCTGT GTGCACGAAC CCCCCGTTCA GCCCGACCGC TGCGCCTTAT CCGGTAAC TA
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >AlwNI
                                |
      2410      2420      2430      2440      2450      2460
      *      *      *      *      *      *
      TCGTCTTGAG TCCAACCCGG TAAGACACGA CTTATCGCCA CTGGCAGCAG CCACTGGTAA
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

                                >SfcI
                                |
      2470      2480      2490      2500      2510      2520
      *      *      *      *      *      *
      CAGGATTAGC AGAGCGAGGT ATGTAGGCGG TGCTACAGAG TTCTTGAAGT GGTGGCCTAA
      _____c_____PUC19 BACKBONE H3 TO AATII_____c_____>

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FIG. 4
(CONTINUED)

[illegible]

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2530      2540      2550      2560      2570      2580
*          *          *          *          *          *
CTACGGCTAC ACTAGAAGGA CAGTATTTGG TATCTGCGCT CTGCTGAAGC CAGTTACCTT
c          PUC19 BACKBONE H3 TO AATII c          >

>Eco57I
|
| 2590      2600      2610      2620      2630      2640
*          *          *          *          *          *
CGGAAAAAGA GTTGGTAGCT CTTGATCCGG CAAACAAACC ACCGCTGGTA GCGGTGGTTT
c          PUC19 BACKBONE H3 TO AATII c          >

2650      2660      2670      2680      2690      2700
*          *          *          *          *          *
TTTTGTTTGC AAGCAGCAGA TTACGCGCAG AAAAAAGGA TCTCAAGAAG ATCCTTTGAT
c          PUC19 BACKBONE H3 TO AATII c          >

>BspHI
|
2710      2720      2730      2740      2750      2760
*          *          *          *          *          *
CTTTTCTACG GGGTCTGACG CTCAGTGGAA CGAAAACTCA CGTTAAGGGA TTTTGGTCAT
c          PUC19 BACKBONE H3 TO AATII c          >

>DraI
|
2770      2780      2790      2800      2810      2820
*          *          *          *          *          *
GAGATTATCA AAAAGGATCT TCACCTAGAT CCTTTTAAAT TAAAAATGAA GTTTTAAATC
c          PUC19 BACKBONE H3 TO AATII c          >

>DraI
|
2830      2840      2850      2860      2870      2880
*          *          *          *          *          *
AATCTAAAGT ATATATGAGT AACTTGGTC TGACAGTTAC CAATGCTTAA TCAGTGAGGC
c          PUC19 BACKBONE H3 TO AATII c          >

a          AMP-ORF
c          >

>BamI
|
2890      2900      2910      2920      2930      2940
*          *          *          *          *          *
ACCTATCTCA GCGATCTGTC TATTTGCTTC ATCCATAGTT GCCTGACTCC CCGTCGTGTA
a          a          AMP-ORF a          a          >
c          PUC19 BACKBONE H3 TO AATII c          >

>AhdI
|
2950      2960      2970      2980      2990      3000
*          *          *          *          *          *
GATAACTACG ATACGGGAGG GCTTACCATC TGGCCCCAGT GCTGCAATGA TACCGCGAGA
a          a          AMP-ORF a          a          >
c          PUC19 BACKBONE H3 TO AATII c          >

>BsaI
|
>BsrDI
>BpmI
|
2950      2960      2970      2980      2990      3000
*          *          *          *          *          *
GATAACTACG ATACGGGAGG GCTTACCATC TGGCCCCAGT GCTGCAATGA TACCGCGAGA
a          a          AMP-ORF a          a          >
c          PUC19 BACKBONE H3 TO AATII c          >

>BsrFI
|
3010      3020      3030      3040      3050      3060
*          *          *          *          *          *
CCCACGCTCA CCGGCTCCAG ATTTATCAGC AATAAACCAG CCAGCCGGAA GGGCCGAGCG
a          a          AMP-ORF a          a          >
c          PUC19 BACKBONE H3 TO AATII c          >

```

FIG. 4
(CONTINUED)

FIG. 4
(CONTINUED)

FIG. 4

(CONTINUED)

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```

                                >XmnI
                                |
                                >Psp1406I
                                |
                                >DraI   >BsiHKAI
                                |       |
                                3490   3500   3510   3520   3530   3540
                                *   *   *   *   *   *
TAATACCGCG CCACATAGCA GAACTTTAAA AGTGCTCATC ATTGGAAAAC GTTCTTCGGG
a         a         AMP-ORF         a         a
c         PUC19 BACKBONE H3 TO AATII         c         >

                                >Eco571
                                |
                                >ApaLI
                                |
                                >BssSI
                                |
                                3550   3560   3570   3580   3590   3600
                                *   *   *   *   *   *
GCGAAACTC TCAAGGATCT TACCGCTGTT GAGATCCAGT TCGATGTAAC CCACTCGTGC
a         a         AMP-ORF         a         a
c         PUC19 BACKBONE H3 TO AATII         c         >

>BsiHKAI
|
|   3610   3620   3630   3640   3650   3660
|   *   *   *   *   *   *
ACCCAAGTGA TCTTCAGCAT CTTTACTTT CACCAGCGTT TCTGGGTGAG CAAAACAGG
a         a         AMP-ORF         a         a
c         PUC19 BACKBONE H3 TO AATII         c         >

                                >MslI
                                |
                                3670   3680   3690   3700   3710   3720
                                *   *   *   *   *   *
AAGGCAAAAT GCCGCAAAAA AGGGAATAAG GGCGACACGG AAATGTTGAA TACTCATACT
a         a         AMP-ORF         a         a
c         PUC19 BACKBONE H3 TO AATII         c         >

>EarI   >SspI   >BspHI   >BsrBI
|       |       |       |
| 3730   | 3740   | 3750   | 3760   | 3770   | 3780
| *   *   | *   *   | *   *   | *   *   | *   *   | *   *
CTTCCTTTT CAATATTATT GAAGCATTTA TCAGGGTTAT TGTCTCATGA GCGGATACAT
c         PUC19 BACKBONE H3 TO AATII         c         >

3790   3800   3810   3820   3830   3840
*   *   *   *   *   *
ATTTGAATGT ATTTAGAAAA ATAAACAAAT AGGGGTTCCG CGCACATTTC CCCGAAAAGT
c         PUC19 BACKBONE H3 TO AATII         c         >

>HincII
|
>AccI
||
>AatII
||
>SalI
|||
3850 |||
*   *   |||
GCCACCTGAC GTC
c         >

```

FIG. 4
(CONTINUED)

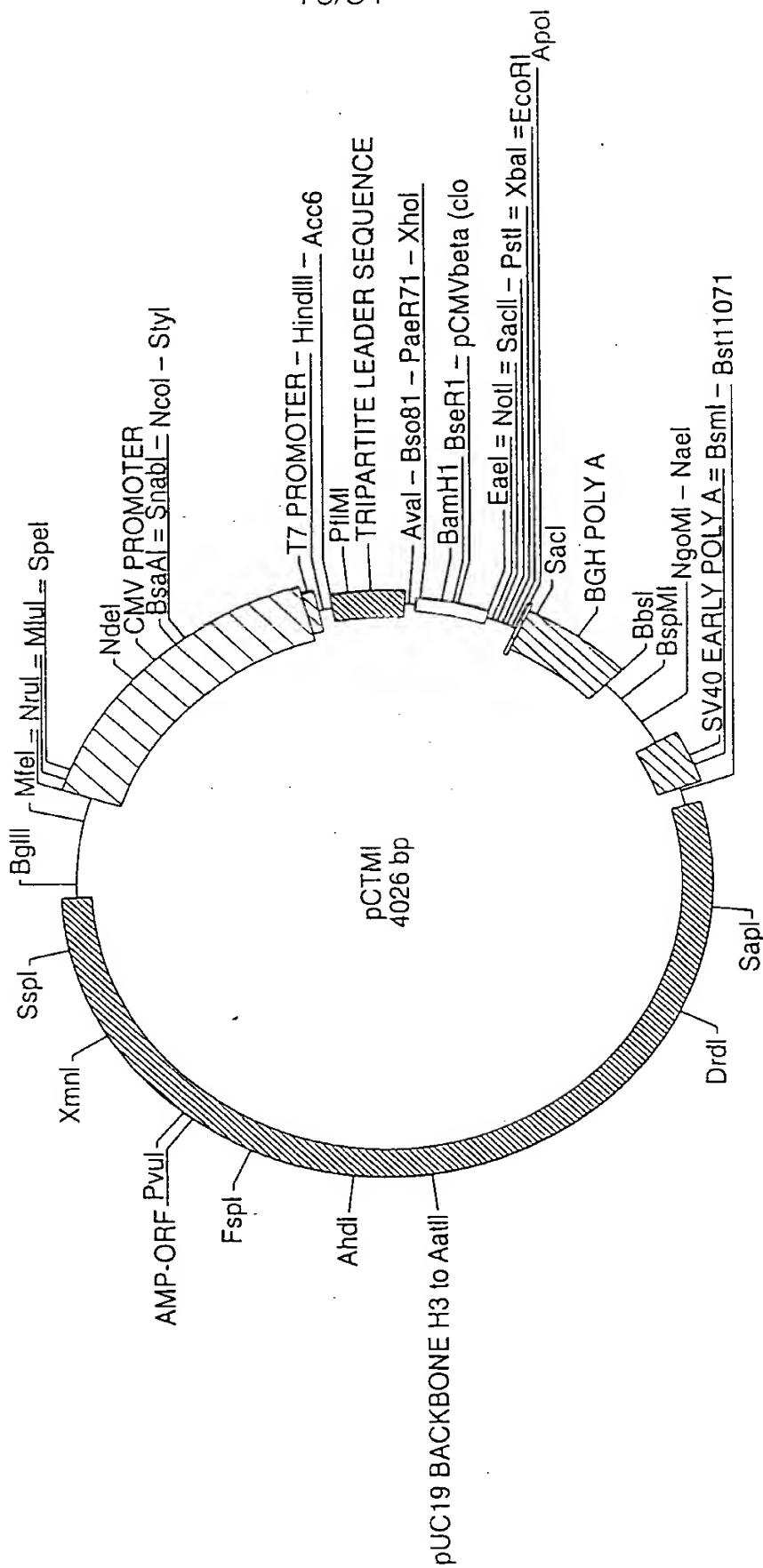


FIG. 5

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```

                                >HincII
                                |
                                >AccI
                                ||
                                >SalI
                                |||
      >BglIII
      |
10  | 20 30 40 50 60
*  *  *  *  *  *
GACGGATCGG GAGATCTCCC GATCCCCTAT GGTCGACTCT CAGTACAATC TGCTCTGATG

                                >AlwNI
                                |
70  | 80 90 100 110 120
*  *  *  *  *  *
CCGCATAGTT AAGCCAGTAT CTGCTCCCTG CTTGTGTGTT GGAGGTCGCT GAGTAGTGCG

                                >ApoI
                                |
130 | 140 150 160 170 180
*  *  *  *  *  *
CGAGCAAAAT TTAAGCTACA ACAAGGCAAG GCTTGACCGA CAATTGCATG AAGAATCTGC

                                >MfeI
                                |
                                >HincII
                                |
                                >AflIII
                                |
                                >MluI
                                |
190 | 200 210 220 230
*  *  *  *  *
TTAGGGTTAG GCGTTTTCG CTGCTTCG CGA TGT ACG GGC CAG ATA TAC GCG TTG
      Arg Cys Thr Gly Gln Ile Tyr Ala Leu>
      _e_e_CMV PROMOTER_e_e_>

                                >NruI
                                |
                                >AseI
                                |
240 | 250 260 270 280
*  *  *  *  *
ACA TTG ATT ATT GAC TAG TTA TTA ATA GTA ATC AAT TAC GGG GTC ATT
Thr Leu Ile Ile Asp *** Leu Leu Ile Val Ile Asn Tyr Gly Val Ile>
_e_e_e_e_e_CMV PROMOTER_e_e_e_e_e_>

290 | 300 310 320 330
*  *  *  *  *
AGT TCA TAG CCC ATA TAT GGA GTT CCG CGT TAC ATA ACT TAC GGT AAA
Ser Ser *** Pro Ile Tyr Gly Val Pro Arg Tyr Ile Thr Tyr Gly Lys>
_e_e_e_e_e_CMV PROMOTER_e_e_e_e_e_>

                                >SpeI
                                |
                                >AatII
                                |
340 | 350 360 370
*  *  *  *
TGG CCC GCC TGG CTG ACC GCC CAA CGA CCC CCG CCC ATT GAC GTC AAT
Trp Pro Ala Trp Leu Thr Ala Gln Arg Pro Pro Pro Ile Asp Val Asn>
_e_e_e_e_e_CMV PROMOTER_e_e_e_e_e_>

380 | 390 400 410 420
*  *  *  *  *
AAT GAC GTA TGT TCC CAT AGT AAC GCC AAT AGG GAC TTT CCA TTG ACG
Asn Asp Val Cys Ser His Ser Asn Ala Asn Arg Asp Phe Pro Leu Thr>
_e_e_e_e_e_CMV PROMOTER_e_e_e_e_e_>

```

FIG. 6

FIG. 6
(CONTINUED)

FIG. 6
(CONTINUED)

(CONTINUED)

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```

      >HincII
      |
      >HpaI
      |
      1100      1110      1120      1130      1140      1150
      *      *      *      *      *      *
      ACCAGAAAGT TAACTGGTAA GTTTAGTCTT TTTGTCTTTT TATTTTCAGGT CCCGGATCCG
      _____b_____ HYBRID SV40 LATE INTRON _____b_____>

      >BseRI
      |
      1160      1170      1180      1190      1200      1210
      *      *      *      *      *      *
      GTGGTGGTGC AAATCAAAGA ACTGCTCCTC AGTGGATGTT GCCTTTACTT CTAGGCCTGT
      _____b_____ HYBRID SV40 LATE INTRON _____b_____>

      >BsiEI
      |
      >EagI
      |
      >EaeI
      |
      >SacII
      |
      >NotI
      |
      1220      1230      1240      1250      1260      1270
      *      *      *      *      *      *
      ACGGAAGTGT TACTTCTGCT CTAAAAGCTG CGGAATTGTA CCCGCGGCCG CTGCAGTCTA
      _____b_____ HYBRID SV40 LATE INTRON _____b_____>

      >ApaI
      |
      >BspDI
      |
      >EcoRV
      |
      >Bsp120I
      |
      >ApoI
      |
      >EcoRI
      |
      1280      1290      1300      1310      1320
      *      *      *      *      *
      GACGAATTCG CGTACGATAT CGATGGGCCC TATT CTA TAG TGT CAC CTA AAT
      Leu *** Cys His Leu Asn>
      _____c_SP6 PROMOTER_c_____>

      >SacI
      |
      >BanII
      |
      >BsiHKA I
      |
      >Ecl136II
      |
      >BclI
      |
      >BGH_POLY_A
      |
      1330      1340      1350      1360      1370      1380
      *      *      *      *      *      *
      GCTAGAGC TCGCTGATCA GCCTCGACTG TGCTTCTAG TTGCCAGCCA TCTGTTGTTT

      >BanI
      |
      1390      1400      1410      1420      1430      1440
      *      *      *      *      *      *
      GCCCCTCCCC CGTGCCTTCC TTGACCCTGG AAGGTGCCAC TCCCACTGTC CTTTCCTAAT
  
```

FIG. 6
(CONTINUED)

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```

      1450      1460      1470      1480      1490      1500
      *      *      *      *      *      *
AAAATGAGGA AATTGCATCG CATTGTCTGA GTAGGTGTCA TTCTATTCTG GGGGGTGGGG

                                >BbsI
                                |
      1510      1520      1530      1540      1550      1560
      *      *      *      *      *      *
TGGGGCAGGA CAGCAAGGGG GAGGATTGGG AAGACAATAG CCGAAATGAC CGACCAAGCG

      >BspMI
      |
      >BssSI
      |
      1570      1580      1590      1600      1610      1620
      *      *      *      *      *      *
ACGCCCCAACC TGCCATCAGG AGATTTTCGAT TCCACCGCCG CCTTCTATGA AAGGTTGGGC

                                >NaeI
                                |
                                >NgoMI
                                |
                                >BpmI
                                |
                                >BsrFI
                                |
      1630      1640      1650      1660      1670      1680
      *      *      *      *      *      *
TTCGGAATCG TTTTCCGGGA CGCCGGCTGG ATGATCCTCC AGCGCCGGGA TCTCATGCTG

                                >BpmI
                                |
                                >SV40_early_poly_A
                                |
      1690      1700      1710      1720      1730      1740
      *      *      *      *      *      *
GAGTTCTTCG CCCACCCCAA CTTGTTTATT GCAGCTTATA ATGGTTACAA ATAAAGCAAT

      >ApoI                                >BsmI
      |                                |
      1750      1760      1770      1780      1790      1800
      *      *      *      *      *      *
AGCATCACAA ATTTCACAAA TAAAGCATTT TTTTCACTGC ATTCTAGTTG TGGTTTGTCC

                                >HincII
                                |
                                >Bst1107I >AccI
                                |    ||
                                >AccI  >SalI
                                |    |||
      1810      1820      1830      1840      1850      1860
      *      *      *      *      *      *
AAACTCATCA ATGTATCTTA TCATGTCTGT ATACCGTCGA CCTCTAGCTA GAGCTTGGCG>

                                >BsrBI
                                |
      1870      1880      1890      1900      1910      1920
      *      *      *      *      *      *
TAATCATGGT CATAGCTGTT TCCGTGTGTA AATTGTTATC CGCTCACAAT TCCACACAAC
_____d_____d_____PUC19 BACKBONE_____d_____d_____>

```

FIG. 6
(CONTINUED)

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```

                                >BamI
                                |
      1930      1940      1950      1960      1970      1980
      *      *      *      *      *      *
ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG CTAAGTCACA
      d      d      PUC19 BACKBONE      d      d      >

                                >AseI
                                |
>AseI      |      >PvuII
|      |      |
      1990      2000      2010      2020      2030      2040
      *      *      *      *      *      *
TTAATTGCGT TCGGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG CCAGCTGCAT
      d      d      PUC19 BACKBONE      d      d      >

                                >EaeI
                                |
                                >HaeII
                                |
                                >SapI
                                |
      2050      2060      2070      2080      2090      2100
      *      *      *      *      *      *
TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTCGCGTA TTGGGCGCTC TTCCGCTTCC
      d      d      PUC19 BACKBONE      d      d      >

                                >BsiEI
                                |
                                >BsrBI
                                |
      2110      2120      2130      2140      2150      2160
      *      *      *      *      *      *
TCGCTCACTG ACTCGCTGCG CTCGGTCGTT CGGCTGCGGC GAGCGGTATC AGCTCACTCA
      d      d      PUC19 BACKBONE      d      d      >

                                >AflIII
                                |
      2170      2180      2190      2200      2210      2220
      *      *      *      *      *      *
AAGGCGGTAA TACGGTTATC CACAGAATCA GGGGATAAGC CAGGAAAGAA CATGTGAGCA
      d      d      PUC19 BACKBONE      d      d      >

      2230      2240      2250      2260      2270      2280
      *      *      *      *      *      *
AAAGGCCAGC AAAAGGCCAG GAACCGTAAA AAGGCCGCGT TGCTGGCGTT TTTCCATAGG
      d      d      PUC19 BACKBONE      d      d      >

                                >DrdI
                                |
      2290      2300      2310      2320      2330      2340
      *      *      *      *      *      *
CTCCGCCCCC CTGACGAGCA TCACAAAAAT CGACGCTCAA GTCAGAGGTG GCGAAACCCG
      d      d      PUC19 BACKBONE      d      d      >

                                >BssSI
                                |
      2350      2360      2370      2380      2390      2400
      *      *      *      *      *      *
ACAGGACTAT AAAGATACCA GCGGTTTCCC CCTGGAAGCT CCCTCGTGCG CTCTCCTGTT
      d      d      PUC19 BACKBONE      d      d      >

```

FIG. 6
(CONTINUED)

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```

                >BsaWI                      >HaeII
                |                          |
    2410      2420      2430      2440      2450      2460
    *          *          *          *          *          *
    CCGACCCTGC CGCTTACCGG ATACCTGTCC GCCTTTCTCC CTTCGGAAG CGTGGCGCTT
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

                >SfcI
                |
    2470      2480      2490      2500      2510      2520
    *          *          *          *          *          *
    TCTCAATGCT CACGCTGTAG GTATCTCAGT TCGGTGTAGG TCGTTCGCTC CAAGCTGGGC
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

    >BsiHKAI
    |
    >ApaLI |
    |      |
    2530      2540      2550      2560      2570      2580
    *          *          *          *          *          *
    TGTGTGCACG AACCCCCCGT TCAGCCCGAC CGCTGCGCCT TATCCGGTAA CTATCGTCTT
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

                >BsiEI                      >BsaWI
                |                          |
    2590      2600      2610      2620      2630      2640
    *          *          *          *          *          *
    GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG TAACAGGATT
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

                >AlwNI
                |
    2590      2600      2610      2620      2630      2640
    *          *          *          *          *          *
    GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG TAACAGGATT
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

                >SfcI
                |
    2650      2660      2670      2680      2690      2700
    *          *          *          *          *          *
    AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTTCTTGA AGTGGTGGCC TAACTACGGC
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

                >Eco57I
                |
    2710      2720      2730      2740      2750      2760
    *          *          *          *          *          *
    TACTACTAGAA GGACAGTATT TGGTATCTGC GCTCTGCTGA AGCCAGTTAC CTTCGGAATA
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

    2770      2780      2790      2800      2810      2820
    *          *          *          *          *          *
    AGAGTTGGTA GCTCTTGATC CGGCAAACAA ACCACCGCTG GTAGCGGTGG TTTTTTGT
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

    2830      2840      2850      2860      2870      2880
    *          *          *          *          *          *
    TGCAAGCAGC AGATTACGCG CAGAAAAAAA GGATCTCAAG AAGATCCTTT GATCTTTTCT
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

                >BspHI
                |
    2890      2900      2910      2920      2930      2940
    *          *          *          *          *          *
    ACGGGGTCTG ACGCTCAGTG GAACGAAAAC TCACGTTAAG GGATTTTGGT CATGAGATTA
    _____d_____d_____PUC19 BACKBONE_____d_____d_____>

```

FIG. 6
(CONTINUED)

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```

                                >DraI
                                |
      2950      2960      2970      2980      2990      3000
      *      *      *      *      *      *
TCAAAAAGGA TCTTCACCTA GATCCTTTTA AATTAAAAAT GAAGTTTTAA ATCAATCTAA
      d      d      PUC19 BACKBONE      d      d
>
                                >BanI
                                |
      3010      3020      3030      3040      3050      3060
      *      *      *      *      *      *
AGTATATATG AGTAAACTTG GTCTGACAGT TACCAATGCT TAATCAGTGA GGCACCTATC
      d      d      PUC19 BACKBONE      d      d
      a      AMP-ORF      a
>
                                >AhdI
                                |
      3070      3080      3090      3100      3110      3120
      *      *      *      *      *      *
TCAGCGATCT GTCTATTTTCG TTCATCCATA GTTGCTGAC TCCCCGTCGT GTAGATAACT
      a      a      AMP-ORF      a      a
      d      d      PUC19 BACKBONE      d      d
>
                                >BsaI
                                |
                                >BsrDI
                                |
                                >BpmI
                                |
      3130      3140      3150      3160      3170      3180
      *      *      *      *      *      *
ACGATACGGG AGGGCTTACC ATCTGGCCCC AGTGCTGCAA TGATACCGCG AGACCCACGC
      a      a      AMP-ORF      a      a
      d      d      PUC19 BACKBONE      d      d
>
>BsrFI
|
      3190      3200      3210      3220      3230      3240
      *      *      *      *      *      *
TCACCGGCTC CAGATTTATC AGCAATAAAC CAGCCAGCCG GAAGGGCCGA GCGCAGAAGT
      a      a      AMP-ORF      a      a
      d      d      PUC19 BACKBONE      d      d
>
>BglI
|
                                >AseI
                                |
      3250      3260      3270      3280      3290      3300
      *      *      *      *      *      *
GGTCCTGCAA CTTTATCCGC CTCCATCCAG TCTATTAATT GTTGCCGGGA AGCTAGAGTA
      a      a      AMP-ORF      a      a
      d      d      PUC19 BACKBONE      d      d
>
>Psp1406I
|
      >FspI      |      >BsrDI      |      >SfcI      |      >MslI
      |      |      |      |      |      |      |
      3310      3320      3330      3340      3350      3360
      *      *      *      *      *      *
AGTAGTTCGC CAGTTAATAG TTTGCGCAAC GTTGTTGCCA TTGCTACAGG CATCGTGGTG
      a      a      AMP-ORF      a      a
      d      d      PUC19 BACKBONE      d      d
>

```

FIG. 6
(CONTINUED)

Category	Subcategory	Frequency	Percentage
Linguistic	Lexical	10	10.0%
	Morphological	5	5.0%
	Syntactic	3	3.0%
	Semantic	2	2.0%
Pragmatic	Contextual	8	8.0%
	Discourse	4	4.0%
	Speech Act	3	3.0%
	Illocutionary	2	2.0%
Cultural	Norms	7	7.0%
	Values	5	5.0%
	Beliefs	3	3.0%
	Attitudes	2	2.0%
Psychological	Emotions	6	6.0%
	Personality	4	4.0%
	Cognition	3	3.0%
	Behavior	2	2.0%

FIG. 6
(CONTINUED)

```

      3790      3800      3810      3820      3830      3840
      *      *      *      *      *      *
TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTCTGGGT GAGCAAAAAC AGGAAGGCAA
      a      a      AMP-ORF      a      a
      d      d      PUC19 BACKBONE      d      d
      >MslI
      3850      3860      3870      3880      3890      3900
      *      *      *      *      *      *
AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT
      a      a      AMP-ORF      a      >
      d      d      PUC19 BACKBONE      d      d
      >SspI      >BspHI      >BsrBI
      3910      3920      3930      3940      3950      3960
      *      *      *      *      *      *
TTTCAATATT ATTGAAGCAT TTATCAGGGT TATTGTCTCA TGAGCGGATA CATATTTGAA
      d      d      PUC19 BACKBONE      d      d
      3970      3980      3990      4000      4010      4020
      *      *      *      *      *      *
TGTATTTAGA AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT
      d      d      PUC19 BACKBONE      d      d
      >HincII
      |
      >AatII
      ||
      >AccI
      ||
      >SalI
      |||
      |*|
GACGTC
      >

```

FIG. 6
(CONTINUED)

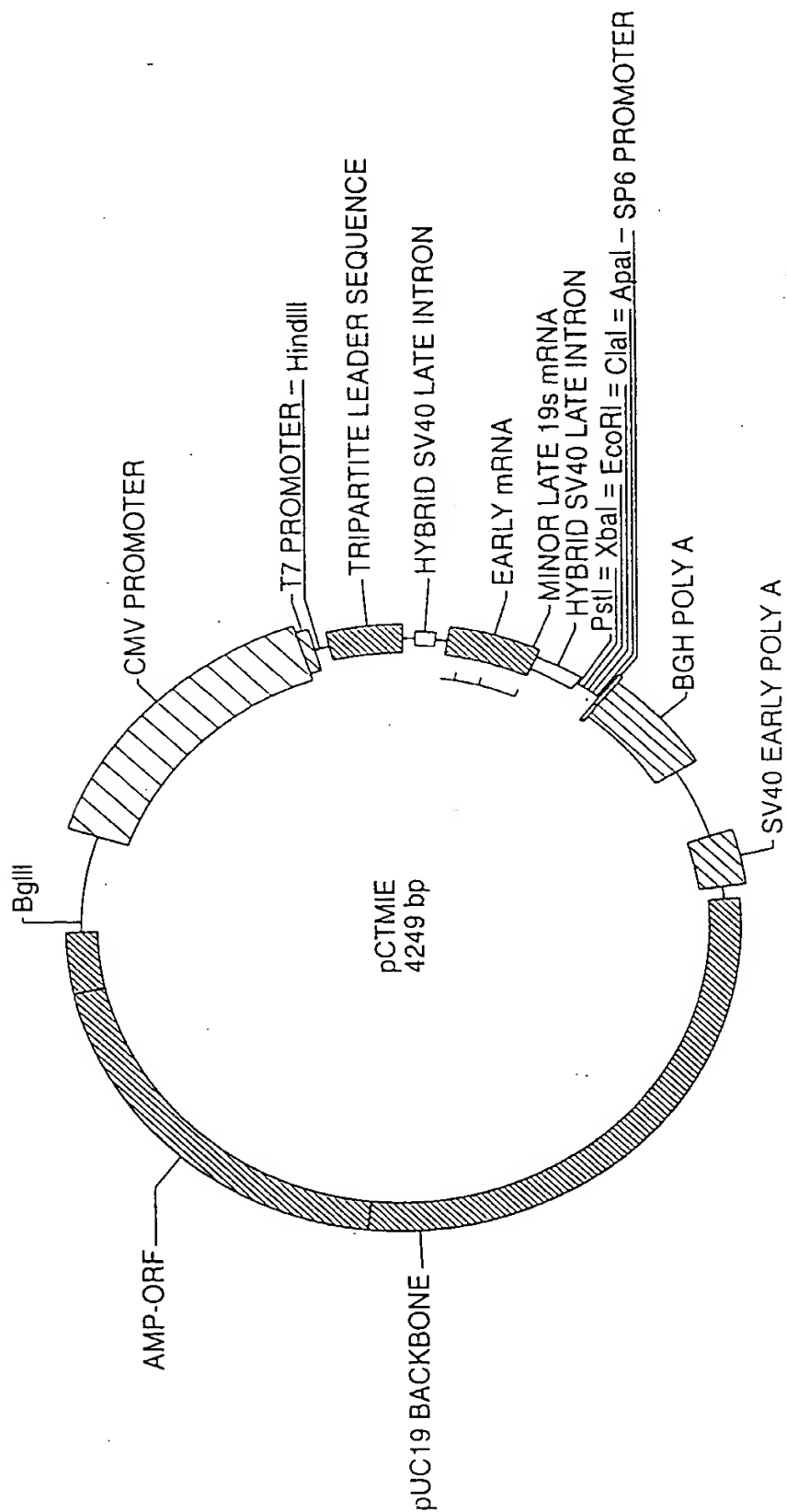


FIG. 7

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```

                                >HincII
                                |
                                >AccI
                                |||
                                >SalI
                                |||
                                |||
    >BglIII
    |
    10 20 30 40 50 60
    *  *  *  *  *  *
GACGGATCGG GAGATCTCCC GATCCCCTAT GGTCGACTCT CAGTACAATC TGCTCTGATG

                                >AlwNI
                                |
    70 80 90 100 110 120
    *  *  *  *  *  *
CCGCATAGTT AAGCCAGTAT CTGCTCCCTG CTTGTGTGTT GGAGGTCGCT GAGTAGTGCG

    >ApoI
    |
    130 140 150 160 170 180
    *  *  *  *  *  *
CGAGCAAAAT TTAAGCTACA ACAAGGCAAG GCTTGACCGA CAATTGCATG AAGAATCTGC

                                >MfeI
                                |
                                >HincII
                                |
                                >AflIII
                                |
                                >MluI
                                |
    190 200 210 220 230
    *  *  *  *  *
TTAGGGTTAG GCGTTTTCG CTGCTTCG CGA TGT ACG GGC CAG ATA TAC GCG TTG
    Arg Cys Thr Gly Gln Ile Tyr Ala Leu>
    ___f___f___CMV PROMOTER___f___f___>

    >SpeI
    |
    240 250 260 270 280
    *  *  *  *  *
ACA TTG ATT ATT GAC TAG TTA TTA ATA GTA ATC AAT TAC GGG GTC ATT
Thr Leu Ile Ile Asp *** Leu Leu Ile Val Ile Asn Tyr Gly Val Ile>
    ___f___f___f___f___f___f___CMV PROMOTER___f___f___f___f___f___f___>

    >AseI
    |
    290 300 310 320 330
    *  *  *  *  *
AGT TCA TAG CCC ATA TAT GGA GTT CCG CGT TAC ATA ACT TAC GGT AAA
Ser Ser *** Pro Ile Tyr Gly Val Pro Arg Tyr Ile Thr Tyr Gly Lys>
    ___f___f___f___f___f___f___CMV PROMOTER___f___f___f___f___f___f___>

    >BglI
    |
    340 350 360 370
    *  *  *  *
TGG CCC GCC TGG CTG ACC GCC CAA CGA CCC CCG CCC ATT GAC GTC AAT
Trp Pro Ala Trp Leu Thr Ala Gln Arg Pro Pro Pro Ile Asp Val Asn>
    ___f___f___f___f___f___f___CMV PROMOTER___f___f___f___f___f___f___>

    >AatII
    |
    380 390 400 410 420
    *  *  *  *  *
AAT GAC GTA TGT TCC CAT AGT AAC GCC AAT AGG GAC TTT CCA TTG ACG
Asn Asp Val Cys Ser His Ser Asn Ala Asn Arg Asp Phe Pro Leu Thr>
    ___f___f___f___f___f___f___CMV PROMOTER___f___f___f___f___f___f___>

```

FIG. 8

FIG. 8
(CONTINUED)

FIG. 8
(CONTINUED)

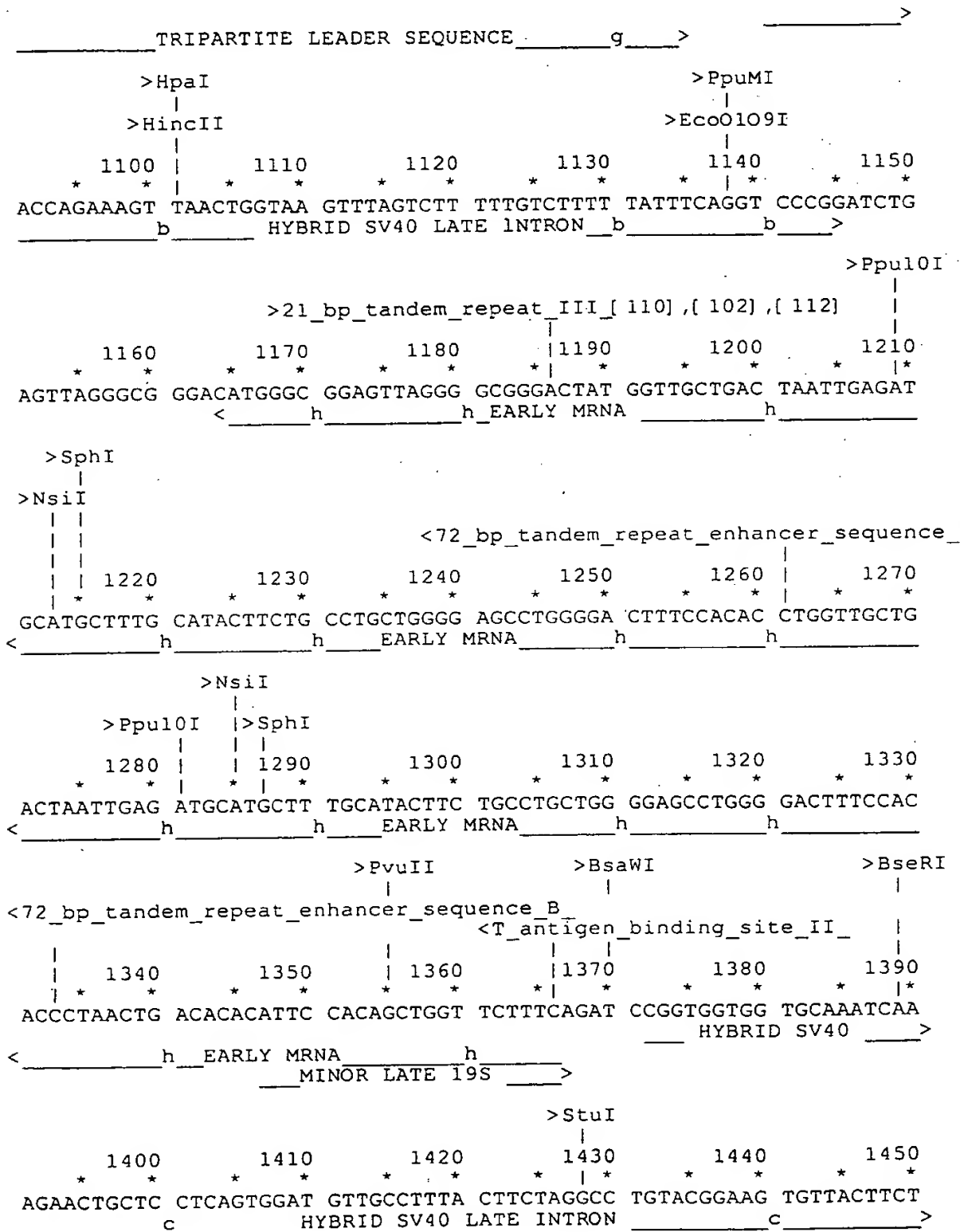


FIG. 8
(CONTINUED)

```

                                >BsiEI
                                |
                                >NotI
                                |
                                >EaeI
                                |
                                >SacII
                                |
                                >EagI
                                |
                                1460
                                *
                                *
                                1470
                                *
                                *
                                1480
                                *
                                *
                                >XbaI
                                |
                                >PstI
                                |
                                >EcoRI
                                |
                                >ApoI
                                |
                                >BsiWI
                                |
                                1490
                                *
                                *
                                1500
                                *
                                *
                                1510
                                *
                                *
GCTCTAAAAG CTGCGGAATT GTACCCGCGG CCGCTGCAGT CTAGACGAAT TCGCGTACGA
___ HYBRID SV40 LATE INT___>

                                >ApaI
                                |
                                >BspDI
                                |
                                >ClaI
                                |
                                >EcoRV
                                |
                                >Bsp120I
                                |
                                1520
                                *
                                *
                                >BanII
                                |
                                >Eco0109I
                                |
                                >SfcI
                                |
                                1530
                                *
                                *
                                >MslI
                                |
                                >BGI POLY_A
                                |
                                1540
                                *
                                *
                                >Ecl136II
                                |
                                >BclI
                                |
                                1550
                                *
                                *
                                1560
                                *
                                *
TATCGATGGG CCCTATT CTA TAG TGT CAC CTA AAT GCTAG AGCTCGCTGA
Leu *** Cys His Leu Asn>
___d_SP6 PROMOTER_d___>

                                1570
                                *
                                *
                                1580
                                *
                                *
                                1590
                                *
                                *
                                1600
                                *
                                *
                                1610
                                *
                                *
                                1620
                                *
                                *
TCAGCCTCGA CTGTGCCTTC TAGTTGCCAG CCATCTGTTG TTTGCCCCCTC CCCCCTGCCT

                                >BanI
                                |
                                1630
                                *
                                *
                                1640
                                *
                                *
                                1650
                                *
                                *
                                1660
                                *
                                *
                                1670
                                *
                                *
                                1680
                                *
                                *
TCCTTGACCC TGGAAGGTGC CACTCCCACT GTCCTTTCCT AATAAAATGA GGAAATTGCA

                                1690
                                *
                                *
                                1700
                                *
                                *
                                1710
                                *
                                *
                                1720
                                *
                                *
                                1730
                                *
                                *
                                1740
                                *
                                *
TCGCATTGTC TGAGTAGGTG TCATTCTATT CTGGGGGGTG GGGTGGGGCA GGACAGCAAG

                                >BspMI
                                |
                                >BbsI
                                |
                                1750
                                *
                                *
                                1760
                                *
                                *
                                1770
                                *
                                *
                                1780
                                *
                                *
                                1790
                                *
                                *
                                1800
                                *
                                *
GGGGAGGATT GGGAAGACAA TAGCCGAAAT GACCGACCAA GCGACGCCCA ACCTGCCATC

                                1810
                                *
                                *
                                1820
                                *
                                *
                                1830
                                *
                                *
                                1840
                                *
                                *
                                1850
                                *
                                *
                                1860
                                *
                                *
ACGAGATTTC GATTCCACCG CCGCCTTCTA TGAAAGGTTG GGCTTCGGAA TCGTTTTCCG

```

FIG. 8
(CONTINUED)


```

>NaeI
|
>BpmI
|
>BsrFI
|
NgoMI
|
1870      1880      1890      1900      1910      1920
*  *      *  *      *  *      *  *      *  *      *  *
GGACGCCGGC TGGATGATCC TCCAGCGCGG GGATCTCATG CTGGAGTTCT TCGCCACCC

>BpmI
|
>SV40_early_poly_A
|
1930      1940      1950      1960      1970      1980
*  *      *  *      *  *      *  *      *  *      *  *
CAACTTGTTT ATTGCAGCTT ATAATGGTTA CAAATAAAGC AATAGCATCA CAAATTTTAC

>BsmI
|
1990      2000      2010      2020      2030      2040
*  *      *  *      *  *      *  *      *  *      *  *
AAATAAAGCA TTTTTTTCAC TGCATTCTAG TTGTGGTTTG TCCAAACTCA TCAATGTATC

>HincII
|
>Bst1107I  >AccI
|          |
>AccI      >SalI
||         ||
2050      2060      2070      2080      2090      2100
*  *      *  *      *  *      *  *      *  *      *  *
TTATCATGTC TGTATACCGT CGACCTCTAG CTAGAGCTTG GCGTAATCAT GGTCATAGCT
_____PUC19 BACKBONE_____>

>BsrBI
|
2110      2120      2130      2140      2150      2160
*  *      *  *      *  *      *  *      *  *      *  *
GTTTCCTGTG TGAAATTGTT ATCCGCTCAC AATTCCACAC AACATACGAG CCGGAAGCAT
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

>BanI
|
2170      2180      2190      2200      2210      2220
*  *      *  *      *  *      *  *      *  *      *  *
AAAGTGTAAG GCCTGGGGTG CCTAATGAGT GAGCTAACTC ACATTAATTG CGTTGCGCTC
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

>PvuII  >AseI  >EaeI
|       |       |
2230      2240      2250      2260      2270      2280
*  *      *  *      *  *      *  *      *  *      *  *
ACTGCCCGCT TTCCAGTCGG GAAACCTGTC GTGCCAGCTG CATTAAATGAA TCGGCCAACG
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

```

FIG. 8
(CONTINUED)

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```

                                >SapI
                                |
                                >HaeII  >EaeI
                                |      |
                2290      2300      2310 | 2320      2330      2340
                *      *      *      *      *      *      *
CGCGGGGAGA GGCGGTTTGC GTATTGGGCG CTCTTCCGCT TCCTCGCTCA CTGACTCGCT
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                                >BsiEI
                                |
                2350      2360      2370      2380      2390      2400
                *      *      *      *      *      *
GCGCTCGGTC GTTCGGCTGC GGCGAGCGGT ATCAGCTCAC TCAAAGGCGG TAATACGGTT
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                                >AflIII
                                |
                2410      2420      2430 | 2440      2450      2460
                *      *      *      *      *      *
ATCCACAGAA TCAGGGGATA ACGCAGGAAA GAACATGTGA GCAAAAGGCC AGCAAAAGGC
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                2470      2480      2490      2500      2510      2520
                *      *      *      *      *      *
CAGGAACCGT AAAAAGGCCG CGTTGCTGGC GTTTTTCCAT AGGCTCCGCC CCCCTGACGA
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                                >DrdI
                                |
                2530      2540 | 2550      2560      2570      2580
                *      *      *      *      *      *
GCATCACAAA AATCGACGCT CAAGTCAGAG GTGGCGAAAC CCGACAGGAC TATAAAGATA
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                                >BssSI
                                |
                2590      2600 | 2610      2620      2630      2640
                *      *      *      *      *      *
CCAGGCGTTT CCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC TGCCGCTTAC
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                                >HaeII
                                |
                2650      2660      2670      2680 | 2690      2700
                *      *      *      *      *      *
CGGATACCTG TCCGCCTTTC TCCCTTCGGG AAGCGTGGCG CTTTCTCAAT GCTCAGCTG
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

                                >SfiI
                                |
                                >BsiHKAI
                                |
                                >ApaLI
                                |
                2710      2720      2730      2740      2750 | 2760
                *      *      *      *      *      *
TAGGTATCTC AGTTCGGTGT AGGTCGTTCT CTCCAAGCTG GGCTGTGTGC ACGAACCCCC
_____e_____e_____PUC19 BACKBONE_____e_____e_____>

```

FIG. 8
(CONTINUED)

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```

                >BsiEI                >BsaWI
                |                |
      2770      2780      2790      2800      2810      2820
      *      *      *      *      *      *
CGTTCAGCCC GACCGCTGCG CTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGGTAAG
      e      e      PUC19 BACKBONE e      e      >

                >AlwNI
                |
      2830      2840      2850      2860      2870      2880
      *      *      *      *      *      *
ACACGACTTA TCGCCACTGG CAGCAGCCAC TGGAACAGG ATTAGCAGAG CGAGGTATGT
      e      e      PUC19 BACKBONE e      e      >

      >SfcI
      |
      2890      2900      2910      2920      2930      2940
      *      *      *      *      *      *
AGGCGGTGCT ACAGAGTTCT TGAAGTGGTG GCCTAACTAC GGCTACACTA GAAGGACAGT
      e      e      PUC19 BACKBONE e      e      >

                >Eco57I
                |
      2950      2960      2970      2980      2990      3000
      *      *      *      *      *      *
ATTTGGTATC TCGCCTCTGC TGAAGCCAGT TACCTTCGGA AAAAGAGTTG GTAGCTCTTG
      e      e      PUC19 BACKBONE e      e      >

      3010      3020      3030      3040      3050      3060
      *      *      *      *      *      *
ATCCGGCAAA CAAACCACCG CTGGTAGCGG TGGTTTTTTT GTTTGCAAGC AGCAGATTAC
      e      e      PUC19 BACKBONE e      e      >

      3070      3080      3090      3100      3110      3120
      *      *      *      *      *      *
GCGCAGAAAA AAAGGATCTC AAGAAGATCC TTTGATCTTT TCTACGGGGT CTGACGCTCA
      e      e      PUC19 BACKBONE e      e      >

                >BspHI
                |
      3130      3140      3150      3160      3170      3180
      *      *      *      *      *      *
GTGGAACGAA AACTCACGTT AAGGGATTTT GGCATGAGA TTATCAAAAA GGATCTTCAC
      e      e      PUC19 BACKBONE e      e      >

      >DraI                >DraI
      |                |
      3190      3200      3210      3220      3230      3240
      *      *      *      *      *      *
CTAGATCCTT TTAAATTAAA AATGAAGTTT TAAATCAATC TAAAGTATAT ATGAGTAAAC
      e      e      PUC19 BACKBONE e      e      >

                >BanI
                |
      3250      3260      3270      3280      3290      3300
      *      *      *      *      *      *
TTGGTCTGAC AGTTACCAAT GCTTAATCAG TGAGGCACCT ATCTCAGCGA TCTGTCTATT
      e      a      a      AMP-ORF a      a      >
      e      e      PUC19 BACKBONE e      e      >

```

FIG. 8
(CONTINUED)

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```

>AhdI
      3310      3320      3330      3340      3350      3360
      *      *      *      *      *      *
TCGTTTCATCC ATAGTTGCCT GACTCCCCGT CGTGTAGATA ACTACGATAC GGGAGGGCTT
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

>BsaI
      3370      3380      3390      3400      3410      3420
      *      *      *      *      *      *
ACCATCTGGC CCCAGTGCTG CAATGATACC GCGAGACCCA CGCTCACCGG CTCCAGATTT
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

>BglI
      3430      3440      3450      3460      3470      3480
      *      *      *      *      *      *
ATCAGCAATA AACCAGCCAG CCGGAAGGGC CGAGCGCAGA AGTGGTCCTG CAACTTTATC
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

>AseI
      3490      3500      3510      3520      3530      3540
      *      *      *      *      *      *
CGCCTCCATC CAGTCTATTA ATTGTTGCCG GGAAGCTAGA GTAAGTAGTT CGCCAGTTAA
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

>Psp1406I
      3550      3560      3570      3580      3590      3600
      *      *      *      *      *      *
TAGTTTGCGC AACGTTGTTG CCATTGCTAC AGGCATCGTG GTGTCACGCT CGTCGTTTGG
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

>BsaWI
      3610      3620      3630      3640      3650      3660
      *      *      *      *      *      *
TATGGCTTCA TTCAGCTCCG GTTCCCAACG ATCAAGGCGA GTTACATGAT CCCCCATGTT
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

>BsiEI
      3670      3680      3690      3700      3710      3720
      *      *      *      *      *      *
GTGCAAAAAA GCGGTTAGCT CCTTCGGTCC TCCGATCGTT GTCAGAAGTA AGTTGGCCGC
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

```

FIG. 8
(CONTINUED)

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```

      >MslI
      |
      3730      3740      3750      3760      3770      3780
      *      *      *      *      *      *
      AGTGTTATCA CTCATGGTTA TGGCAGCACT GCATAATTCT CTTACTGTCA TGCCATCCGT
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

      >ScaI
      |
      3790      3800      3810      3820      3830      3840
      *      *      *      *      *      *
      AAGATGCTTT TCTGTGACTG GTGAGTACTC AACCAAGTCA TTCTGAGAAT AGTGTATGCG
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

      >BsiEI
      |
      3850      3860      3870      3880      3890      3900
      *      *      *      *      *      *
      GCGACCGAGT TGCTCTTGCC CGGCGTCAAT ACGGGATAAT ACCGCGCCAC ATAGCAGAAC
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

      >Psp1406I
      |
      >DraI      >BsiHKAI      >XmnI
      |      |      |
      3910      3920      3930      3940      3950      3960
      *      *      *      *      *      *
      TTTAAAAGTG CTCATCATTG GAAAACGTTT TCGGGGGCGA AAACCTCTCAA GGATCTTACC
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

      >Eco57I
      |
      >ApaLI
      |
      >BssSI      >BsiHKAI
      |      |
      3970      3980      3990      4000      4010      4020
      *      *      *      *      *      *
      GCTGTTGAGA TCCAGTTCGA TGTAACCCAC TCGTGCACCC AACTGATCTT CAGCATCTTT
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

      4030      4040      4050      4060      4070      4080
      *      *      *      *      *      *
      TACTTTCACC AGCGTTTCTG GGTGAGCAAA AACAGGAAGG CAAAATGCCG CAAAAAAGGG
      a      a      AMP-ORF      a      a      >
      e      e      PUC19 BACKBONE      e      e      >

      >MslI      >EarI      >SspI
      |      |      |
      4090      4100      4110      4120      4130      4140
      *      *      *      *      *      *
      AATAAGGGCG ACACGGAAAT GTTGAATACT CATACTCTTC CTTTTTCAAT ATTATTGAAG
      a      AMP-ORF      a      >
      e      e      PUC19 BACKBONE      e      e      >
  
```

FIG. 8
(CONTINUED)

FIG. 8
(CONTINUED)

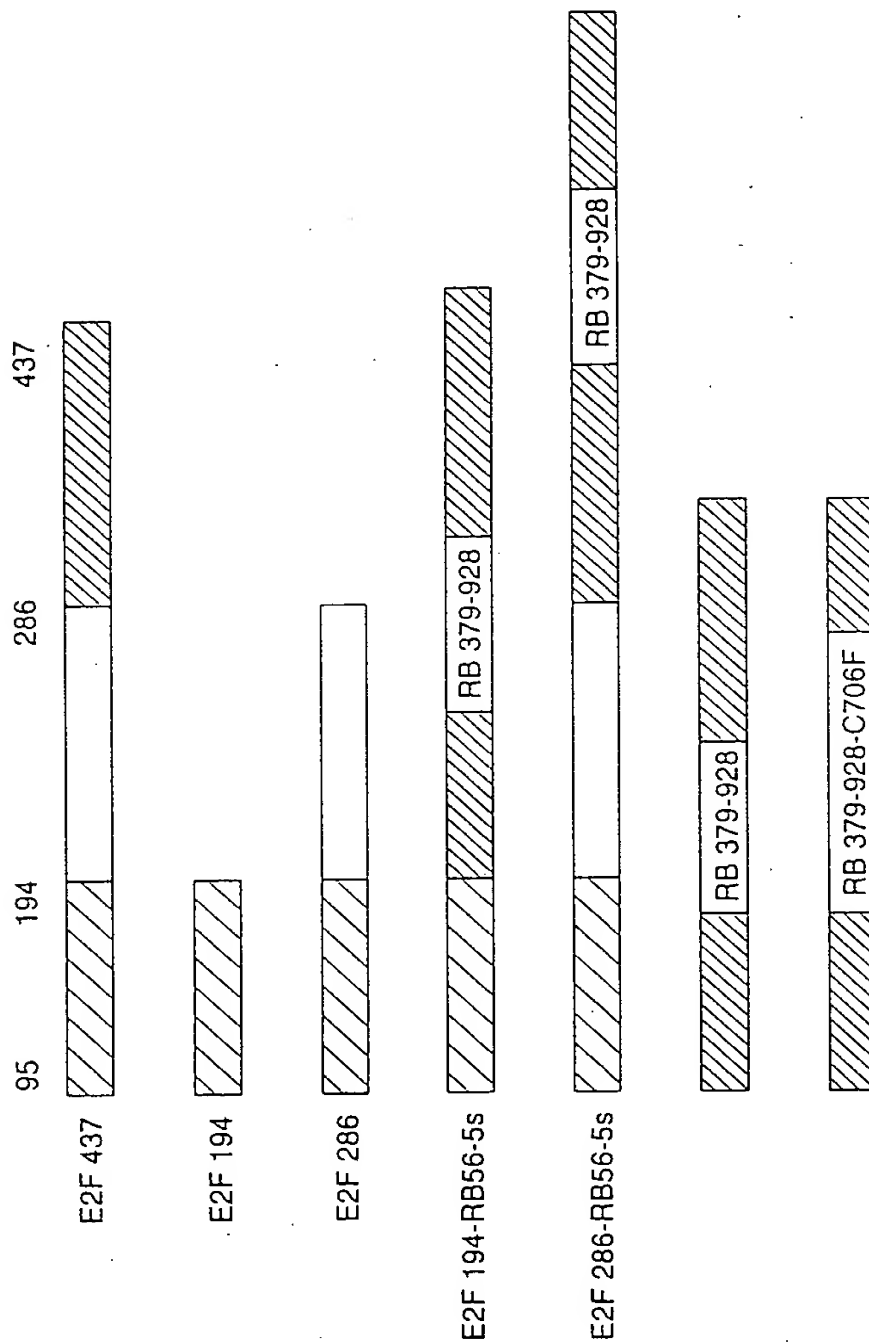


FIG. 9

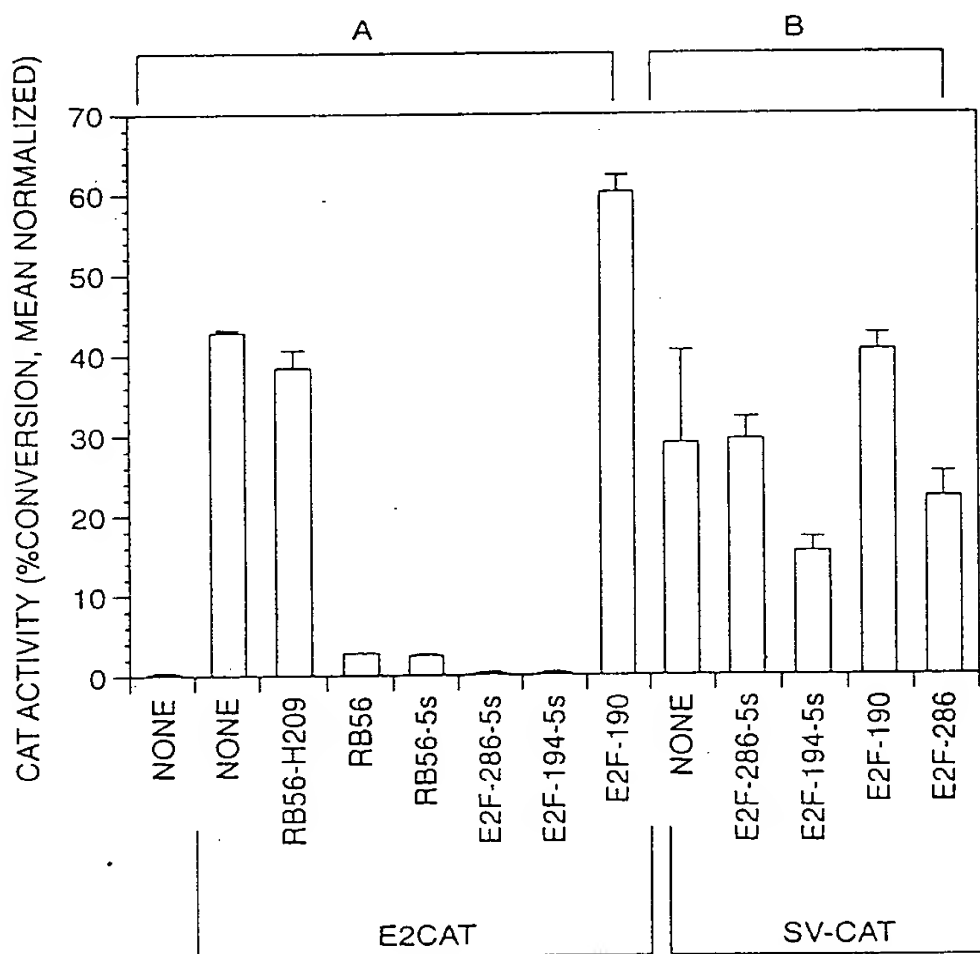


FIG. 10

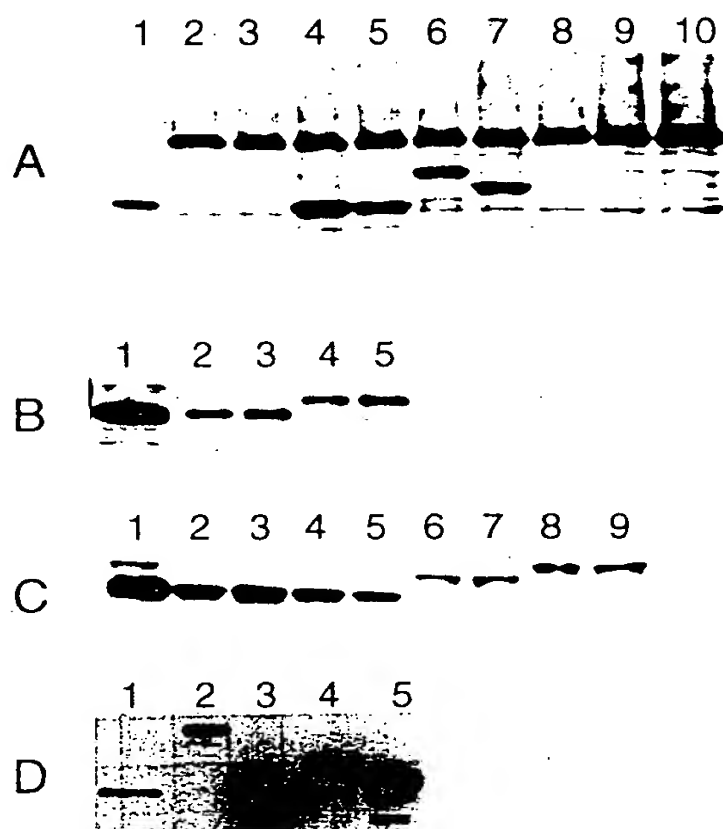


FIG. 11

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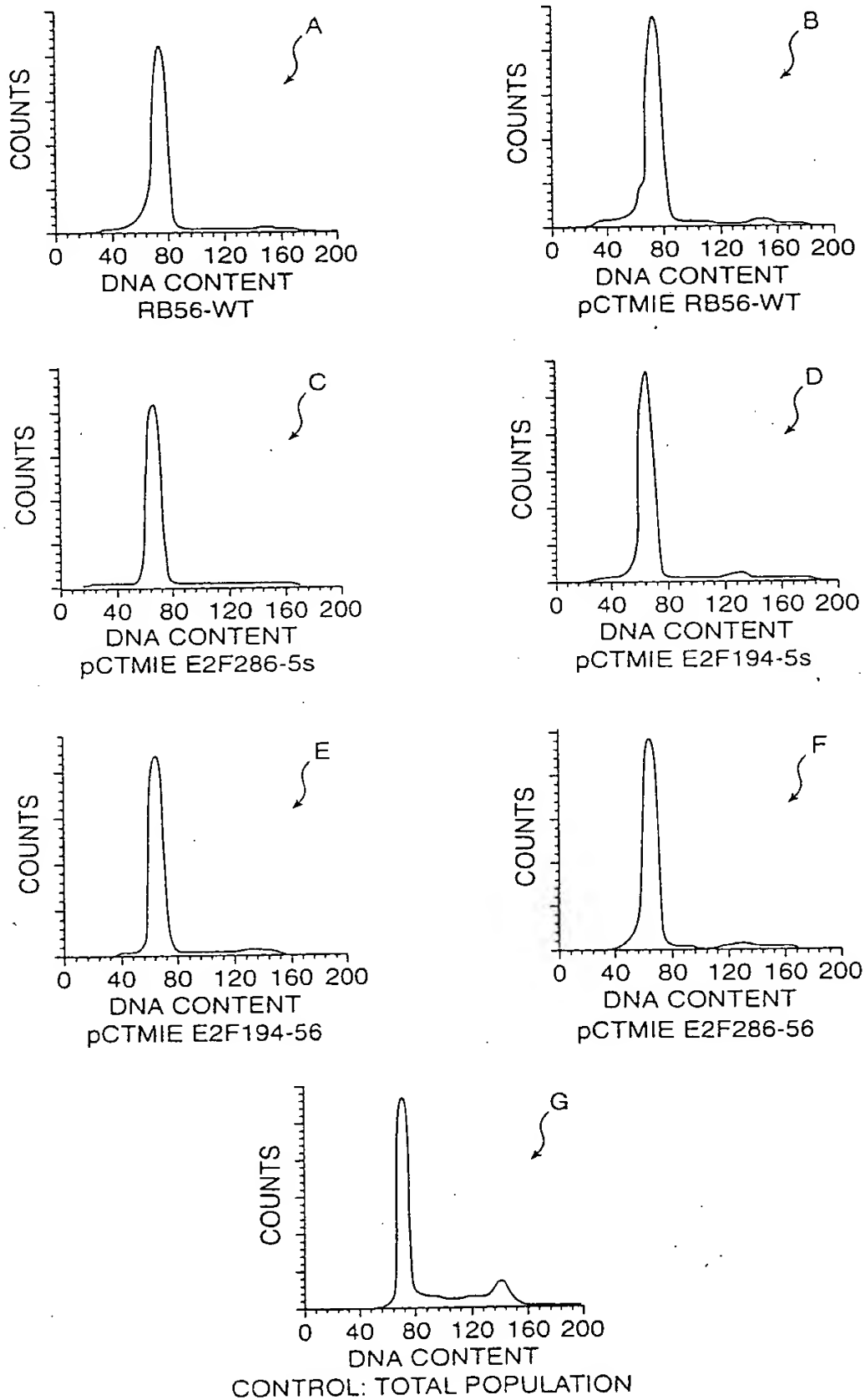


FIG. 12

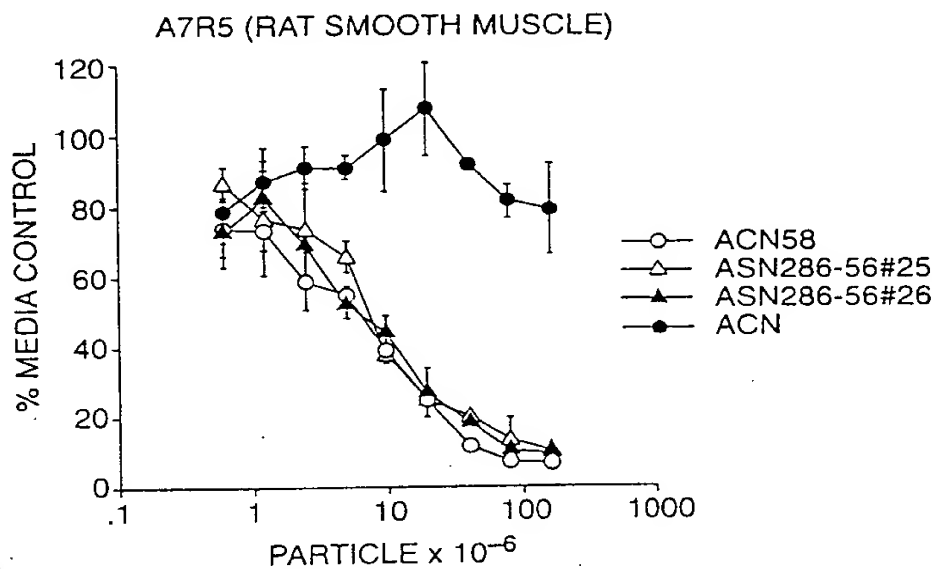


FIG. 13A

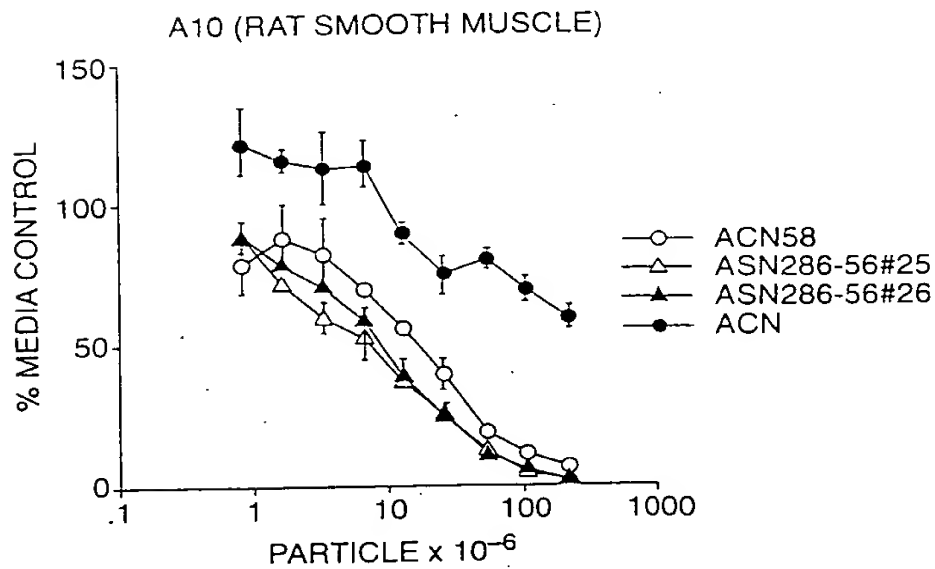


FIG. 13B

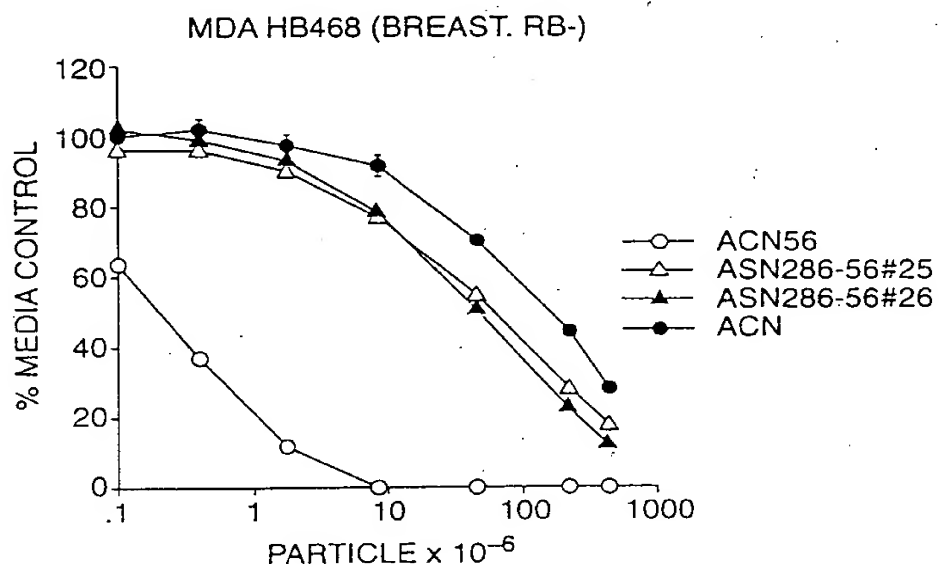


FIG. 14A

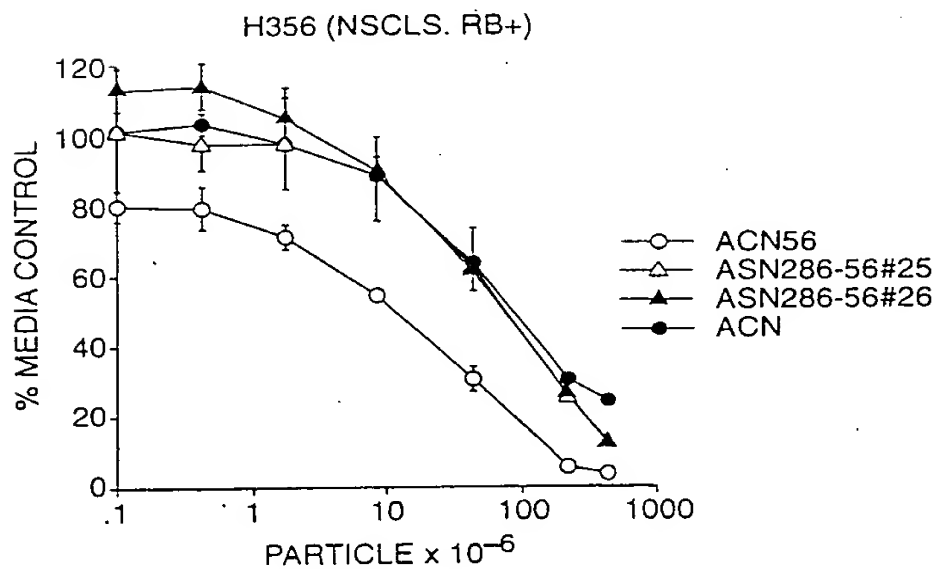


FIG. 14B

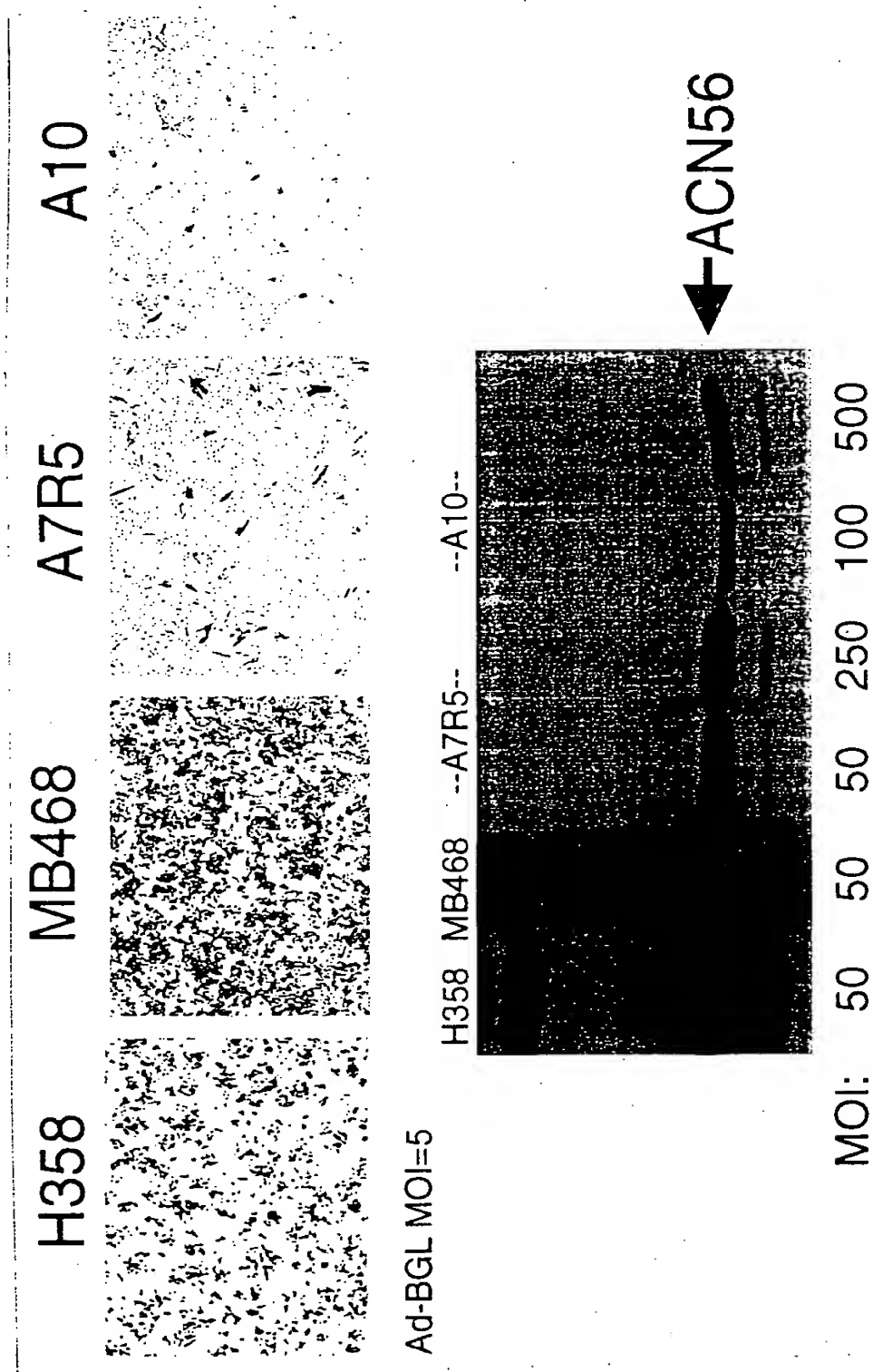
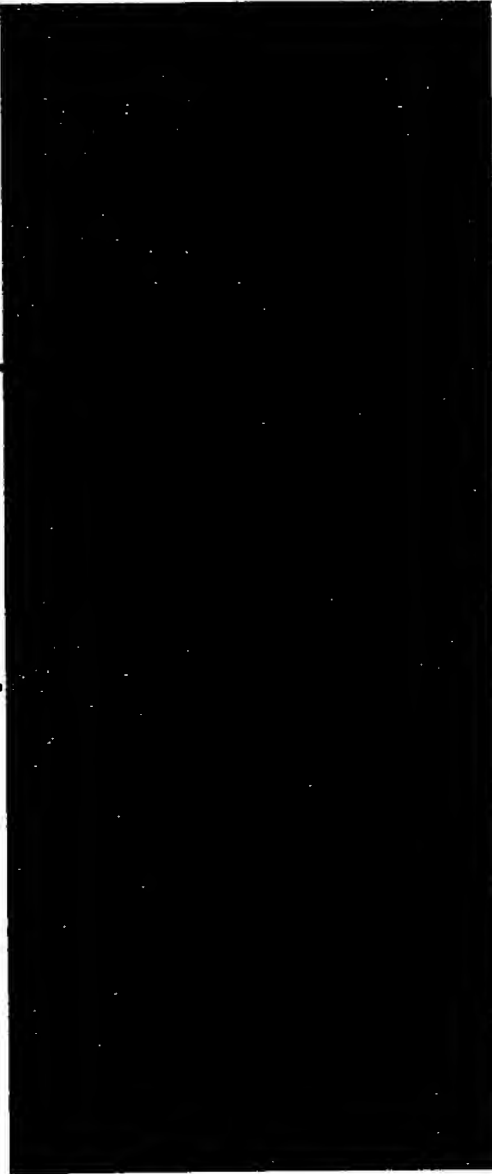


FIG. 15

MB468 (BREAST) | A7R5 (SM) | A10 (SM)



UN 50 250 500 UN 50 250 UN 100 500

FIG. 16

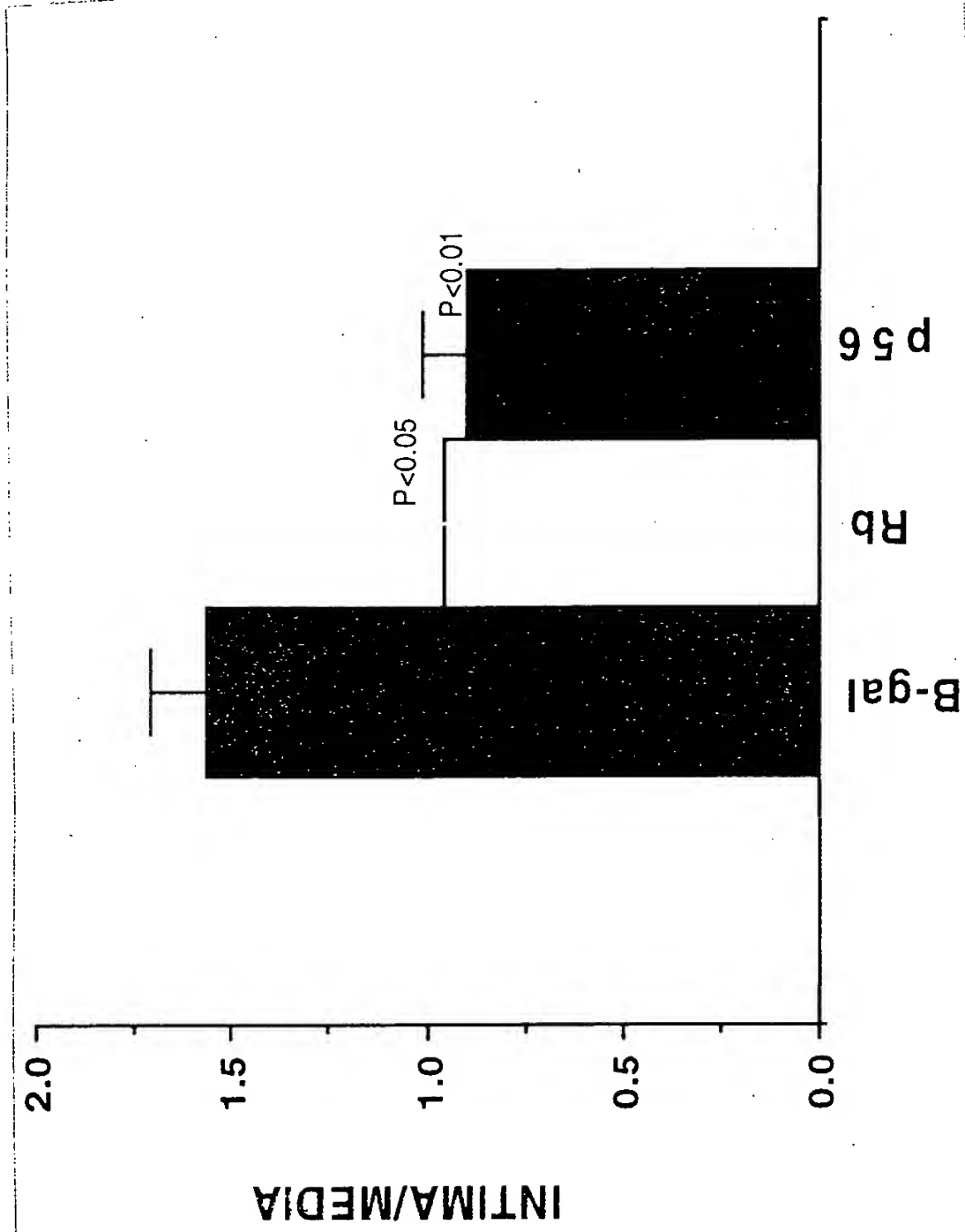
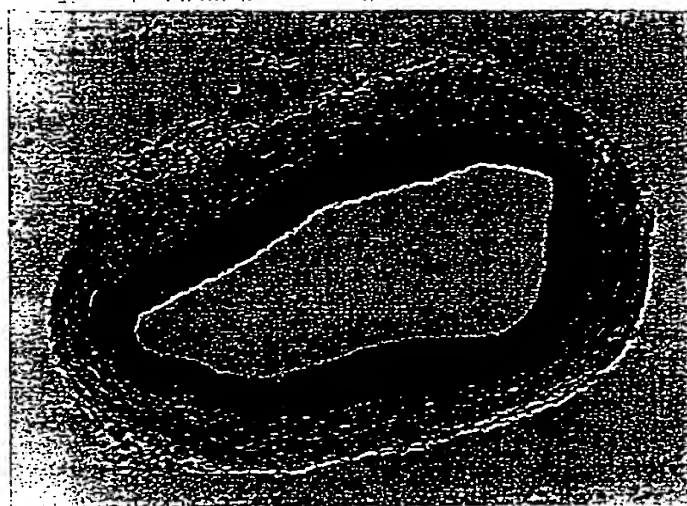


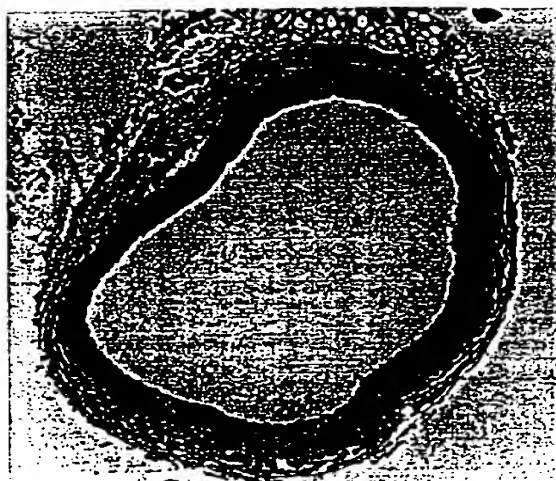
FIG. 17



p56^{RB}-Treated



Restenotic



Normal

FIG. 18

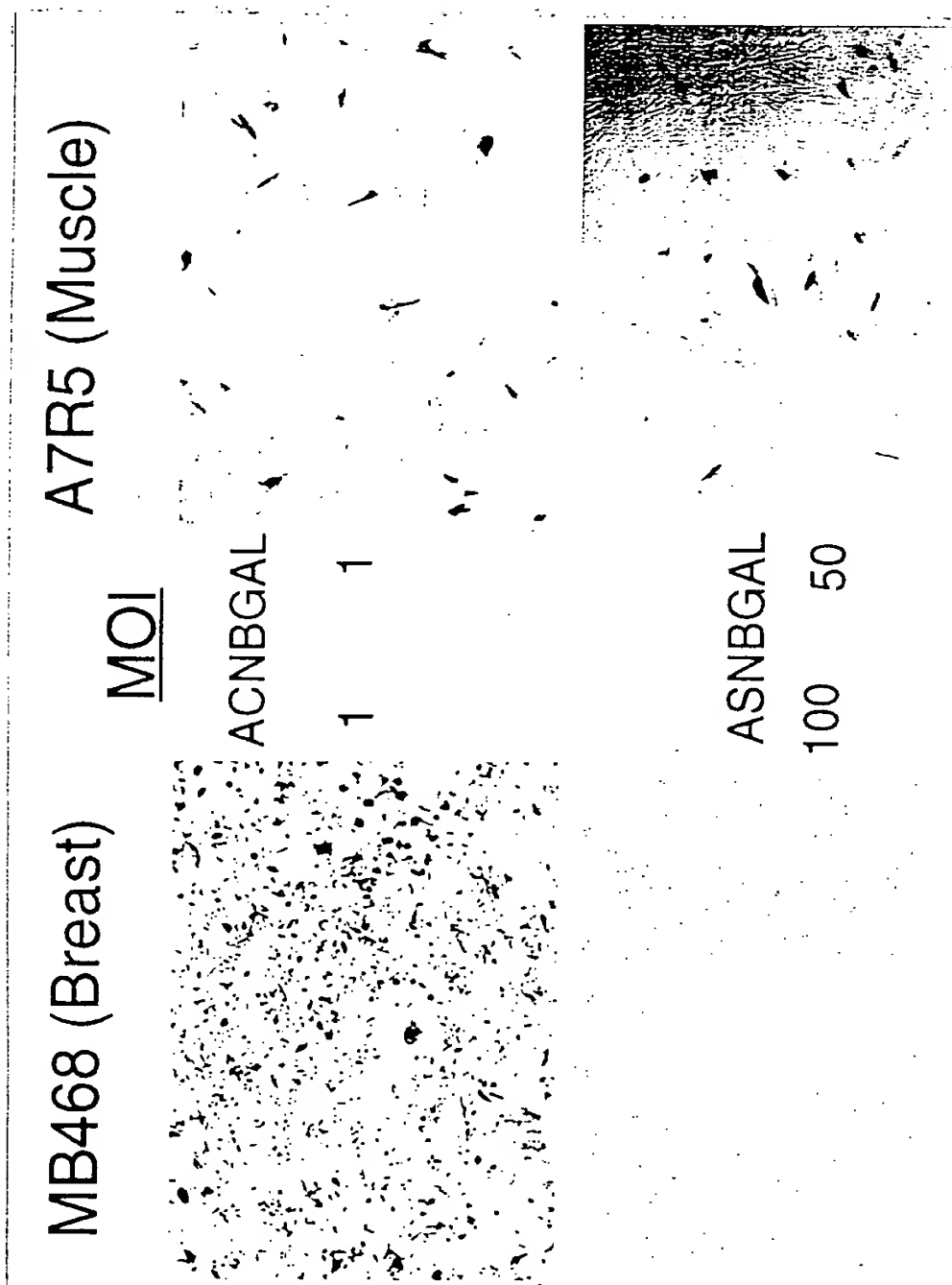


FIG. 19

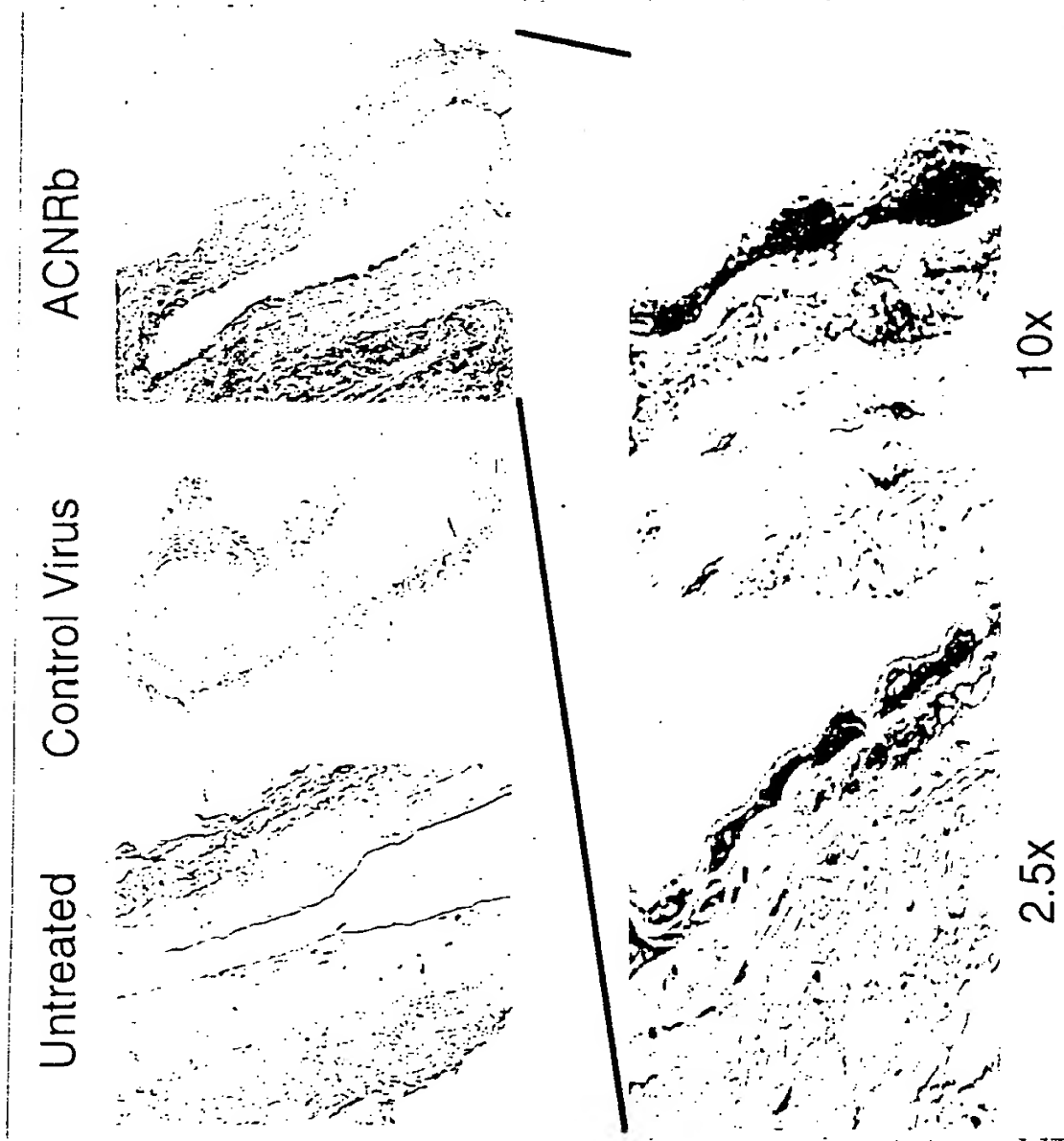


FIG. 20

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A7r5 3H-THYMIDINE

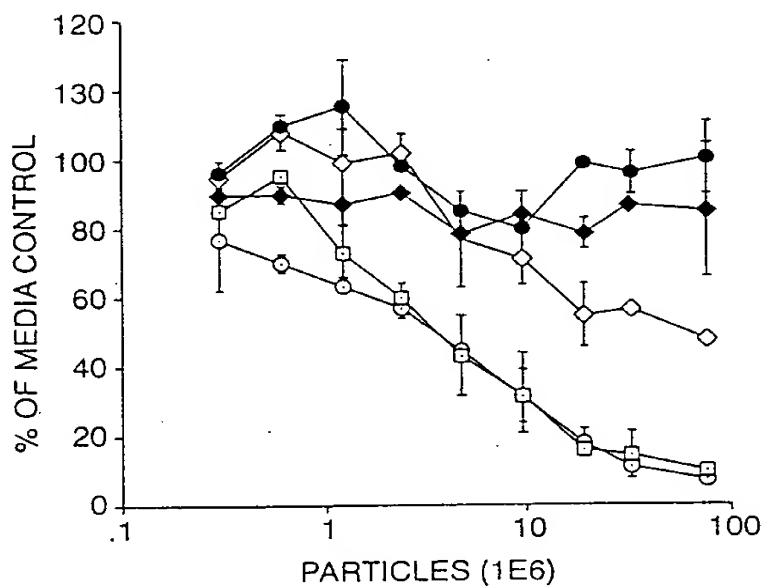


FIG. 21A

MDA468 3H-THYMIDINE

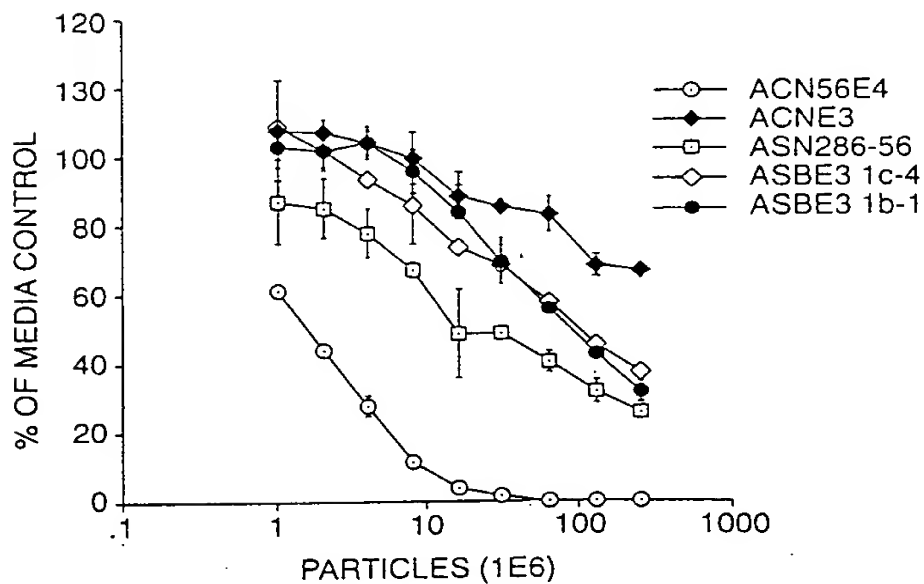


FIG. 21B